BIOMARIN PHARMACEUTICAL INC
Form S-3
November 09, 2001

AS FILED WITH THE SECURITIES AND EXCHANGE COMMISSION ON NOVEMBER 9, 2001

REGISTRATION NO. 333-

SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM S-3
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

BIOMARIN PHARMACEUTICAL INC.
(Exact name of registrant as specified in its charter)

DELAWARE	68-0397820
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

371 BEL MARIN KEYS BOULEVARD, SUITE 210
NOVATO, CALIFORNIA 94949
(415) 884-6700
(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

RAYMOND W. ANDERSON
CHIEF FINANCIAL OFFICER
BIOMARIN PHARMACEUTICAL INC.
371 BEL MARIN KEYS BOULEVARD, SUITE 210
NOVATO, CALIFORNIA 94949
(415) 884-6700
(Name, address, including zip code, and telephone number, including area code, of agent for service)

COPIES OF ALL COMMUNICATIONS, INCLUDING ALL COMMUNICATIONS SENT TO THE AGENT FOR SERVICE, SHOULD BE SENT TO:

SIOBHAN MCBREEN BURKE, ESQ.	DONALD J. MURRAY, ESQ.
PAUL, HASTINGS, JANOFSKY & WALKER LLP	DEWEY BALLANTINE LLP
555 SOUTH FLOWER STREET, 23RD FLOOR	1301 AVENUE OF THE AMERICAS
LOS ANGELES, CALIFORNIA 90071-2371	NEW YORK, NEW YORK 10019-6092
(213) 683-6000	(212) 259-8000
FACSIMILE: (213) 627-0705	FACSIMILE: (212) 259-6333

APPROXIMATE DATE OF COMMENCEMENT OF PROPOSED SALE TO THE PUBLIC: As soon as practicable after the effective date of this Registration Statement.

If the only securities being registered on this form are being offered pursuant to dividend or interest reinvestment plans, please check the following box. / /

If any of the securities being registered on this form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, other than securities offered only in connection with dividend or interest reinvestment plans, check the following box. / /

If this form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. / /

If this form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. / /

If delivery of the prospectus is expected to be made pursuant to Rule 434 under the Securities Act, please check the following box. / /

CALCULATION OF REGISTRATION FEE

TITLE OF EACH CLASS OF SECURITIES TO BE REGISTERED	AMOUNT OF SHARES TO BE REGISTERED (1)	PROPOSED MAXIMUM OFFERING PRICE PER SHARE (2)	PROPOSED MAX AGGREGATE OFF PRICE (2
Common Stock, $.001 par value per share.....	6,900,000	$12.12	$83,628,0

(1) Includes 900,000 shares subject to the underwriter's over-allotment option.

(2) Estimated solely for the purpose of computing the registration fee required pursuant to Section 6(b) of the Securities Act and computed pursuant to Rule 457(c) of the Securities Act, based on the average of the high and low prices of the Common Stock on November 8, 2001 as reported on the NASDAQ National Market.

THE REGISTRANT HEREBY AMENDS THIS REGISTRATION STATEMENT ON SUCH DATE OR DATES AS MAY BE NECESSARY TO DELAY ITS EFFECTIVE DATE UNTIL THE REGISTRANT SHALL FILE A FURTHER AMENDMENT WHICH SPECIFICALLY STATES THAT THIS REGISTRATION STATEMENT SHALL THEREAFTER BECOME EFFECTIVE IN ACCORDANCE WITH SECTION 8(A) OF THE SECURITIES ACT OF 1933 OR UNTIL THE REGISTRATION STATEMENT SHALL BECOME EFFECTIVE ON SUCH DATE AS THE COMMISSION, ACTING PURSUANT TO SAID SECTION 8(A), MAY DETERMINE.

The information in this prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities and we are not soliciting an offer to buy these

securities in any state where the offer or sale is not permitted

PRELIMINARY PROSPECTUS Subject to Completion November 9, 2001

6,000,000 Shares

[LOGO]

Common Stock

We are selling all of the 6,000,000 shares of common stock offered by this prospectus.

Our common stock is quoted on the Nasdaq National Market and the Swiss SWX New Market under the symbol "BMRN." On November 8, 2001, the last reported sales price of our common stock on the Nasdaq National Market was $12.05 per share.

Investing in our common stock involves a high degree of risk. Before buying any shares you should read the discussion of material risks of investing in our common stock in "Risk factors" beginning on page 7 of this prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the accuracy or adequacy of this prospectus. Any representation to the contrary is a criminal offense.

	Per Share	Total
Public offering price	$	$
Underwriting discount and commissions	$	$
Proceeds, before expenses, to us	$	$

The underwriters may also purchase from us up to an additional 900,000 shares of our common stock at the public offering price less the underwriting discount, to cover over-allotments, if any, within 30 days of the date of this prospectus.

The underwriters are offering the shares of our common stock as described in "Underwriting." Delivery of the shares will be made on or about , 2001

UBS Warburg

CIBC World Markets

U.S. Bancorp Piper Jaffray

TABLE OF CONTENTS

"BioMarin" and "Neutralase" are trademarks of BioMarin-TM-. All other trademarks or trade names referred to in this prospectus are the property of their respective owners.

As used in this prospectus, the terms "we," "us," "our," the "Company" and "BioMarin" means BioMarin Pharmaceutical Inc. and its subsidiaries (unless the context indicates a different meaning), and the term "common stock" means our common stock, $.001 par value per share.

Prospectus summary

THE FOLLOWING SUMMARY DOES NOT CONTAIN ALL THE INFORMATION YOU SHOULD CONSIDER BEFORE INVESTING IN OUR COMMON STOCK. YOU SHOULD READ THE ENTIRE PROSPECTUS, INCLUDING "RISK FACTORS," THE FINANCIAL STATEMENTS AND OTHER INFORMATION INCORPORATED BY REFERENCE IN THIS PROSPECTUS, BEFORE MAKING AN INVESTMENT DECISION.

BUSINESS OVERVIEW

We develop enzyme therapies to treat serious, life-threatening diseases and conditions. We leverage our expertise in enzyme biology to develop product candidates for the treatment of genetic diseases, including MPS I, MPS VI, MPS IVA and PKU, as well as other critical care situations such as cardiovascular surgery and serious burns. Our product candidates address markets for which no products are currently available or where current products have been associated with major deficiencies. We focus on conditions with well-defined patient populations, including genetic diseases, which require chronic therapy.

Our lead product candidate, Aldurazyme-TM-, which recently completed a Phase III

trial, is being developed for the treatment of Mucopolysaccharidosis I (MPS I) disease. MPS I is a debilitating and life-threatening genetic disease caused by the deficiency of (alpha)-L-iduronidase, an enzyme responsible for breaking down certain carbohydrates. MPS I is a progressive disease that afflicts patients from birth and frequently leads to severe disability and early death. There are currently no drugs on the market for the treatment of MPS I. Aldurazyme has received both fast track designation from the United States Food and Drug Administration and orphan drug designation for the treatment of MPS I in the United States and in the European Union. We are developing Aldurazyme through a joint venture with Genzyme Corporation. In collaboration with Genzyme, we completed a double-blinded, placebo-controlled Phase III clinical trial of Aldurazyme in August 2001. On November 2, 2001, we announced positive results from this trial. We intend to meet with regulators in early 2002 with regard to the filing of a Biologics License Application, or BLA, with the FDA and a Marketing Authorization Application, or MAA, with the European Medicines Evaluation Agency (European Union).

We are developing our second product candidate, Neutralase-TM-, for reversal of anticoagulation by heparin in patients undergoing Coronary Artery Bypass Graft, or CABG, surgery and angioplasty. We acquired rights to Neutralase through our recent acquisition of the pharmaceutical assets of IBEX Technologies Inc. Heparin is a carbohydrate drug commonly used to prevent coagulation, or blood clotting, during certain types of major surgery. Neutralase is a carbohydrate-modifying enzyme that cleaves heparin, allowing coagulation of blood and aiding patient recovery following CABG surgery and angioplasty. Based on data from previous trials, we plan to initiate a Phase III trial in CABG surgery in 2002.

In addition to Aldurazyme and Neutralase, we are developing other enzyme-based therapeutics for the treatment of a variety of diseases and conditions. We recently completed a Phase I trial of rhASB for the treatment of MPS VI, another seriously debilitating genetic disease. Based on data from this previous trial, we plan to initiate a Phase II trial of rhASB in early 2002. We also are developing Vibriolysin Topical, a topical enzyme product for use in removing burned skin tissue in preparation for skin grafting or other therapy. We initiated a Phase I clinical trial of this product in the United Kingdom in the fourth quarter of 2001, and we expect to begin a Phase II clinical trial in the United States following the completion of this Phase I trial. In addition, we are pursuing preclinical development of other enzyme product candidates for genetic and other diseases.

RECENT DEVELOPMENTS

- On November 2, 2001, we announced positive results from a preliminary analysis of data from the Phase III clinical trial of Aldurazyme for the treatment of MPS I. Patients were evaluated at defined intervals to assess progress in meeting two primary endpoints. The preliminary data analysis showed a statistically significant increase in pulmonary capacity (p=0.028) and demonstrated a positive trend in endurance as measured by a six-minute walk test (p=0.066). Among other endpoints measured in the trial, the main findings of an earlier open-label study of Aldurazyme were confirmed: a reduction in liver size and a reduction in excretion of urinary glycosaminoglycans, or GAGs, the carbohydrate substances that accumulate in patients with MPS I. Based on the strength of the trial's results, Genzyme and we plan to meet jointly with U.S., Canadian and European regulatory authorities to discuss applications to market Aldurazyme.

- On October 31, 2001, we acquired the pharmaceutical assets of IBEX Technologies Inc. The product candidates and technologies that we gained in this transaction, primarily the Neutralase and Phenylase programs, are

complementary to our existing product portfolio and core competencies. Under the terms of the agreement, we acquired these assets in exchange for consideration of $10.4 million, with $8.4 million payable in shares of BioMarin common stock and $2.0 million payable in cash. In addition, we agreed to make contingent cash payments of up to approximately $9.5 million to IBEX upon FDA approval of products acquired from IBEX.

ALDURAZYME

Our lead product candidate, Aldurazyme, is being developed for the treatment of MPS I. MPS I is a genetic disease caused by the deficiency of (alpha)-L-iduronidase. Patients with MPS I have multiple debilitating symptoms resulting from the buildup of carbohydrate residues in all tissues in the body. These symptoms include delayed physical and mental growth, enlarged livers and spleens, skeletal and joint deformities, airway obstruction, heart disease, reduced endurance and pulmonary function, and impaired hearing and vision. Most patients with MPS I will die from complications associated with the disease as children or teenagers. About 3,400 individuals in developed countries have MPS I, including about 1,000 in the United States and Canada.

There are currently no approved drugs for the treatment of MPS I. Bone marrow transplantation has been used to treat severely affected patients, generally under the age of two, with limited success. Bone marrow transplantation is associated with high morbidity and mortality rates as well as with problems inherent in the procedure itself, including graft vs. host disease, graft rejection, and donor availability, which severely limit its utility and application.

Aldurazyme is a specific form of recombinant human (alpha)-L-iduronidase that replaces a genetic deficiency of (alpha)-L-iduronidase in MPS I patients, thus reducing or eliminating the build-up of certain carbohydrates in the lysosomes of cells. By eliminating this carbohydrate build-up, Aldurazyme is able to significantly reduce physical symptoms experienced by these patients. The Phase I trial results of this product candidate reported no neutralizing antibodies, indicating its applicability for chronic administration. In collaboration with Genzyme, we completed a 45-patient, double-blinded, placebo-controlled Phase III clinical trial of Aldurazyme in August 2001, which was conducted at five sites in the U.S., Europe and Canada. All patients completed the trial and have elected to receive Aldurazyme in an open label extension study. On November 2, 2001, we announced positive results from this trial. We intend to continue the development of this drug and meet with regulators in early 2002 with regard to the filing of a BLA with the FDA and an MAA with the EMEA.

Aldurazyme has received fast track designation from the FDA for the treatment of MPS I. The FDA has granted Aldurazyme orphan drug designation, which will result in exclusive rights to market Aldurazyme to treat MPS I for seven years from the date of FDA approval if Aldurazyme is the first

2

product to be approved by the FDA for the treatment of MPS I. In addition, the European Commission has designated Aldurazyme for the treatment of MPS I as an orphan medicinal product, giving the potential for market exclusivity in Europe for 10 years. In September 1998, we formed a 50/50 joint venture with Genzyme for the worldwide development and commercialization of Aldurazyme. Genzyme will be responsible for regulatory submissions in international markets. Genzyme will also be responsible for marketing, distribution, sales and obtaining reimbursement for Aldurazyme worldwide.

NEUTRALASE

We are developing Neutralase for the reversal of anticoagulation by heparin in

patients undergoing Coronary Artery Bypass Graft, or CABG, surgery and angioplasty. Patients undergoing CABG surgery and angioplasty are treated with heparin to prevent coagulation during surgery. Once the procedure is completed, anticoagulant reversal agents are administered to prevent excessive bleeding. Currently, protamine is the only product commercially available for the reversal of heparin anticoagulation. In medical studies, protamine has been associated with adverse side effects, such as abnormal changes in blood pressure, depression of heart function and acute allergic reactions. There were approximately 550,000 CABG procedures and 925,000 angioplasties in the United States in 1998 (as published by the American Heart Association in their 2001 Heart and Stroke Statistical Update) that could have potentially benefited from heparin reversal. We believe that an additional substantial market opportunity exists in Europe and the rest of the world.

We believe Neutralase has the potential to reverse heparin anticoagulation without many of the serious side-effects associated with protamine. Neutralase is a carbohydrate-modifying enzyme that breaks down heparin in a manner that reverses heparin's anticoagulation effect and restores the normal coagulation of blood. Neutralase has the potential for use as a reversal agent for heparin anticoagulation in open-heart surgery such as CABG procedures, interventional cardiology procedures such as angioplasty, and in other procedures where heparin or heparin-like anticoagulants are used, such as in hip and knee surgeries.

Data from Phase I and Phase II clinical trials indicate that Neutralase can reverse heparin anticoagulation without the adverse changes in blood pressure associated with protamine usage. Building on the work undertaken so far, we intend to initiate a Phase III trial for CABG in 2002, followed by a Phase IIB trial for angioplasty.

Other Product Development Programs

RHASB

We are developing recombinant, human N-acetylgalactosamine 4-sulfatase (rhASB) for the treatment of MPS VI, a debilitating genetic disease similar to MPS I. rhASB has received fast track designation from the FDA as well as orphan drug designation for the treatment of MPS VI in the United States and in the European Union. Based on clinical data to date, we plan to initiate a Phase II trial of rhASB early in 2002.

VIBRIOLYSIN

We are developing Vibriolysin for use in removing burned skin in preparation for skin grafting or other therapy. In the fourth quarter of 2001, we initiated a Phase I clinical trial of this product candidate in the United Kingdom and we expect to begin a Phase II clinical trial in either the United States or the United Kingdom following the completion of this Phase I trial.

PHENYLASE

Phenylase is being developed as an oral enzyme therapy for patients with phenylketonuria (PKU) a genetic disease in which the body cannot properly metabolize the amino acid phenylalanine. If left untreated, elevated levels of phenylalanine lead to brain damage and severe mental retardation. Phenylase is currently in preclinical development.

MPS IVA

We are developing a product candidate for the treatment of MPS IVA, a debilitating genetic disease similar to MPS I. This product is currently in

preclinical development.

OUR STRATEGY

Our strategy is to develop therapeutic enzyme products to treat a variety of diseases and conditions. The principal elements of this strategy are to:

DEVELOP AND SUCCESSFULLY COMMERCIALIZE ALDURAZYME

We are seeking to develop and globally commercialize Aldurazyme for the treatment of MPS I. In concert with our joint venture partner, Genzyme, we are reviewing strategies for the effective launch of this product. We believe we will benefit from Genzyme's marketing organization, which has extensive world-wide experience marketing drugs to well-defined patient populations with chronic genetic diseases.

CONTINUE TO BUILD A DIVERSIFIED PORTFOLIO OF PRODUCT CANDIDATES

We are developing a pipeline of product candidates in various stages of clinical and preclinical development. We believe this strategy increases the likelihood of successful product commercialization, while reducing our exposure to the risk inherent in the development of any one drug. We currently have one product in Phase III, one product in Phase II and two products in Phase I clinical trials and additional products in late preclinical development.

TARGET UNDERSERVED MARKETS

We intend to continue to target market opportunities where there is little or no competition, such as the markets for MPS I and MPS VI. We also target markets where we believe that our technology will enable us to become a market leader in a relatively short time period, such as the market for Neutralase. Our strategy is to avoid situations where market differentiation is a function of marketing strength and not technical expertise.

SEEK TO LICENSE OR ACQUIRE COMPLEMENTARY PRODUCTS AND TECHNOLOGIES

We intend to supplement our internal drug discovery efforts through the acquisition of products and technologies that complement our general product development strategy. An example of this is our recent acquisition of the pharmaceutical assets of IBEX Technologies, which added two complementary product candidates to our portfolio. We intend to continue to identify, evaluate and pursue the licensing or acquisition of other strategically valuable products and organizations.

LEVERAGE OUR CORE COMPETENCIES

We believe that we have significant expertise in enzyme biology and manipulation, which we have used to establish a strong platform for the development of enzyme-related pharmaceutical products. We intend to leverage these competencies to develop high-value products for markets with unmet medical needs. When strategically advantageous, we may seek partnerships with industry leaders for the further advancement of our product candidates.

Our principal executive offices are located at 371 Bel Marin Keys Boulevard, Suite 210, Novato, CA 94949 and our telephone number is (415) 884-6700.

Information contained on our website, www.biomarinpharm.com, is not part of this prospectus.

The offering

Common stock offered	6,000,000 shares
Common stock to be outstanding after this offering	50,234,374 shares
Use of proceeds	We intend to use the net proceeds to fund development and commercialization of our lead product candidate, Aldurazyme; additional clinical trials and manufacturing of Neutralase; preclinical studies and clinical trials for our other product candidates; potential licenses and other acquisitions of complementary technologies and products; general corporate purposes; and working capital. See "Use of Proceeds."
Nasdaq National Market and SWX Swiss New Market symbol	"BMRN"

The number of shares of our common stock to be outstanding after this offering in the table above is based on the number of shares outstanding as of November 6, 2001, and does not include, as of that date:

- 752,427 shares of common stock issuable upon exercise of outstanding warrants at a weighted average exercise price of $12.99 per share;

- 7,175,722 shares of our common stock issuable upon exercise of outstanding options issued under our stock option plans at a weighted average exercise price of $10.92 per share; and

- an additional 1,266,611 shares of common stock available for future issuance under our stock option plans and employee stock purchase plan.

Unless otherwise stated, all information contained in this prospectus assumes no exercise of the over-allotment option we granted to the underwriters.

Summary Consolidated Financial Data

	Year Ended December 31,			Nine Months Ende September 30,	
Consolidated Statements of Operations Data:	1998	1999	2000	2000	20
	(in thousands, except for per share data)				
				(unaudited)	
Revenues	$ 1,190	$ 6,976	$ 12,326	$ 9,188	$ 10,8
Operating costs and expenses:					
Cost of products and services	108	464	719	539	8
Research and development	10,502	27,206	35,794	25,109	31,8

Selling, general and administrative.....	3,532	6,805	8,814	6,517	7,5
Carson Street closure.....	--	--	4,423	4,423	
Total costs and expenses.....	14,142	34,475	49,750	36,588	40,2
Loss from operations.....	(12,952)	(27,499)	(37,424)	(27,400)	(29,3
Interest income.....	685	1,832	2,979	2,281	1,4
Interest expense.....	--	(732)	(7)	(6)	(
Equity in loss of joint venture.....	(47)	(1,673)	(2,912)	(1,845)	(4,7
Net loss.....	$(12,314)	$(28,072)	$(37,364)	$(26,970)	$(32,6
Net loss per common share, basic and diluted.....	$ (0.55)	$ (0.94)	$ (1.04)	$ (0.76)	$ (0.
Weighted average common shares outstanding...	22,488	29,944	35,859	35,493	39,6

Consolidated Balance Sheet Data:	September 30, 2001 Actual	As Adjusted
	(unaudited)	
Cash, cash equivalents and short-term investments.....	$43,905	111,685
Total current assets.....	50,642	118,422
Total assets.....	90,402	158,182
Long-term liabilities.....	146	146
Total stockholders' equity.....	84,166	151,946

See notes to our consolidated financial statements incorporated by reference in this prospectus for a description of the number of shares used in the computation of the net loss per common share.

The as adjusted balance sheet data above gives effect to our sale of 6,000,000 shares of common stock at an assumed offering price of $12.05 per share after deducting the underwriting discount and estimated offering expenses payable by us.

This table does not give effect to:

- a cash payment of $2.0 million and the issuance and sale of 814,647 shares of our common stock which we recently paid to IBEX Technologies Inc. and certain of its affiliates in connection with our October 31, 2001 acquisition of their pharmaceutical assets, or

- the issuance and sale of an aggregate 1,061,676 shares of our common stock to Acqua Wellington North American Equities Fund, Ltd. and the $10.5 million proceeds therefrom in October 2001.

Risk Factors

AN INVESTMENT IN OUR COMMON STOCK INVOLVES A HIGH DEGREE OF RISK. WE OPERATE IN

A DYNAMIC AND RAPIDLY CHANGING INDUSTRY THAT INVOLVES NUMEROUS RISKS AND UNCERTAINTIES. BEFORE PURCHASING THESE SECURITIES, YOU SHOULD CAREFULLY CONSIDER THE FOLLOWING RISK FACTORS, AS WELL AS OTHER INFORMATION CONTAINED IN THIS PROSPECTUS OR INCORPORATED BY REFERENCE INTO THIS PROSPECTUS, TO EVALUATE AN INVESTMENT IN THE SECURITIES OFFERED BY THIS PROSPECTUS. THE RISKS AND UNCERTAINTIES DESCRIBED BELOW ARE NOT THE ONLY ONES WE FACE. OTHER RISKS AND UNCERTAINTIES, INCLUDING THOSE THAT WE DO NOT CURRENTLY CONSIDER MATERIAL, MAY IMPAIR OUR BUSINESS. IF ANY OF THE RISKS DISCUSSED BELOW ACTUALLY OCCUR, OUR BUSINESS, FINANCIAL CONDITION, OPERATING RESULTS OR CASH FLOWS COULD BE MATERIALLY ADVERSELY AFFECTED. THIS COULD CAUSE THE TRADING PRICE OF OUR COMMON STOCK TO DECLINE, AND YOU MAY LOSE ALL OR PART OF YOUR INVESTMENT.

If we continue to incur operating losses for a period longer than anticipated, we may be unable to continue our operations at planned levels and be forced to reduce or discontinue operations.

We are in an early stage of development and have operated at a net loss since we were formed. Since we began operations in March 1997, we have been engaged primarily in research and development. We have no sales revenues from any of our product candidates. As of September 30, 2001, we had an accumulated deficit of approximately $113 million. We expect to continue to operate at a net loss for the foreseeable future. Our future profitability depends on our receiving regulatory approval of our product candidates and our ability to successfully manufacture and market any approved drugs, either by ourselves or jointly with others. The extent of our future losses and the timing of profitability are highly uncertain. If we fail to become profitable or are unable to sustain profitability on a continuing basis, then we may be unable to continue our operations.

If we fail to obtain the capital necessary to fund our operations, we will be unable to complete our product development programs.

In the future, we may need to raise substantial additional capital to fund operations. We cannot be certain that any financing will be available when needed. If we fail to raise additional financing as we need it, we will have to delay or terminate some or all of our product development programs.

We expect to continue to spend substantial amounts of capital for our operations for the foreseeable future. The amount of capital we will need depends on many factors, including:

- The progress, timing and scope of our preclinical studies and clinical trials

- The time and cost necessary to obtain regulatory approvals

- The time and cost necessary to develop commercial manufacturing processes, including quality systems and to build or acquire manufacturing capabilities.

- The time and cost necessary to respond to technological and market developments

- Any changes made or new developments in our existing collaborative, licensing and other commercial relationships or any new collaborative, licensing and other commercial relationships that we may establish

Moreover, our fixed expenses such as rent, license payments and other contractual commitments are substantial and will increase in the future. These fixed expenses will increase because we may enter into:

- Additional leases for new facilities and capital equipment

- Additional licenses and collaborative agreements

- Additional contracts for consulting, maintenance and administrative services

- Additional contracts for product manufacturing

We believe that our cash, cash equivalents and short-term investment securities balances at September 30, 2001 will be sufficient to meet our operating and capital requirements at least through the next 12 months. This estimate is based on assumptions and estimates, which may prove to be wrong. As a result, we may need or choose to obtain additional financing during that time.

If we fail to obtain regulatory approval to commercially manufacture or sell any of our future drug products, or if approval is delayed, we will be unable to generate revenue from the sale of our products.

We must obtain regulatory approval before marketing or selling our drug products in the U.S. and in foreign jurisdictions. In the United States, we must obtain FDA approval for each drug that we intend to commercialize. The FDA approval process is typically lengthy and expensive, and approval is never certain. Products distributed abroad are also subject to foreign government regulation. None of our drug products has received regulatory approval to be commercially marketed and sold. If we fail to obtain regulatory approval, we will be unable to market and sell our drug products. Because of the risks and uncertainties in biopharmaceutical development, our drug products could take a significantly longer time to gain regulatory approval than we expect or may never gain approval. If regulatory approval is delayed, our management's credibility, the value of our company and our operating results will be adversely affected.

To obtain regulatory approval to market our products, preclinical studies and costly and lengthy clinical trials will be required, and the results of the studies and trials are highly uncertain.

As part of the regulatory approval process, we must conduct, at our own expense, preclinical studies in the laboratory on animals and clinical trials on humans for each drug product. We expect the number of preclinical studies and clinical trials that the regulatory authorities will require will vary depending on the drug product, the disease or condition the drug is being developed to address and regulations applicable to the particular drug. We may need to perform multiple preclinical studies using various doses and formulations before we can begin clinical trials, which could result in delays in our ability to market any of our drug products. Furthermore, even if we obtain favorable results in preclinical studies on animals, the results in humans may be significantly different.

After we have conducted preclinical studies in animals, we must demonstrate that our drug products are safe and efficacious for use on the target human patients in order to receive regulatory approval for commercial sale. Adverse or inconclusive clinical results would stop us from filing for regulatory approval of our drug products. Additional factors that can cause delay or termination of our clinical trials include:

- Slow or insufficient patient enrollment

- Slow recruitment of, and completion of necessary institutional approvals at,

clinical sites

- Longer treatment time required to demonstrate efficacy

- Lack of sufficient supplies of the product candidate

- Adverse medical events or side effects in treated patients

- Lack of effectiveness of the product candidate being tested

- Regulatory requests for additional clinical trials

Typically, if a drug product is intended to treat a chronic disease, as is the case with most of the product candidates we are developing, safety and efficacy data must be gathered over an extended period of time, which can range from six months to three years or more.

8

Risk factors

In April 1999, we completed a twelve-month patient evaluation for the initial clinical trial of our lead drug product, Aldurazyme, for the treatment of MPS I. Two of the original ten patients enrolled in this trial died in 2000. One of these patients received 103 weeks of Aldurazyme treatment and the other received 127 weeks of treatment. Based on medical data collected from clinical investigative sites, neither case directly implicated treatment with Aldurazyme as the cause of death. In cases of patient complications or death are ultimately attributed to Aldurazyme, our chances of commercializing this drug would be seriously compromised.

The fast track designation for our product candidates may not actually lead to a faster review process.

Although Aldurazyme and rhASB have obtained fast track designations, we cannot guarantee a faster review process or faster approval compared to the normal FDA procedures.

We will not be able to sell our products if we fail to comply with manufacturing regulations.

Before we can begin commercial manufacture of our products, we must obtain regulatory approval of our manufacturing facility and process. In addition, manufacture of our drug products must comply with the FDA's current Good Manufacturing Practices regulations, commonly known as cGMP. The cGMP regulations govern quality control and documentation policies and procedures. Our manufacturing facilities are continuously subject to inspection by the FDA, the State of California and foreign regulatory authorities, before and after product approval. Our Galli Drive and our Bel Marin Keys Boulevard manufacturing facilities have been inspected and licensed by the State of California for clinical pharmaceutical manufacture. We cannot guarantee that these facilities will pass federal or international regulatory inspection. We cannot guarantee that we, or any potential third-party manufacturer of our drug products, will be able to comply with cGMP regulations.

We must pass Federal, state and European regulatory inspections, and we must manufacture three process qualification batches (five process qualification batches for Europe) to final specifications under cGMP controls for each of our drug products before the marketing applications can be approved. Although we have completed process qualification batches for Aldurazyme, these batches may

be rejected by the regulatory authorities, and we may be unable to manufacture the process qualification batches for our other products or pass the inspections in a timely manner, if at all.

If we fail to obtain orphan drug exclusivity for some of our products, our competitors may sell products to treat the same conditions and our revenues will be reduced.

As part of our business strategy, we intend to develop drugs that may be eligible for FDA and European Community orphan drug designation. Under the Orphan Drug Act, the FDA may designate a product as an orphan drug if it is a drug intended to treat a rare disease or condition, defined as a patient population of less than 200,000 in the United States. The company that first obtains FDA approval for a designated orphan drug for a given rare disease receives marketing exclusivity for use of that drug for the stated condition for a period of seven years. However, different drugs can be approved for the same condition. Similar regulations are available in the European Community with a ten-year period of market exclusivity.

Because the extent and scope of patent protection for our drug products is limited, orphan drug designation is particularly important for our products that are eligible for orphan drug designation. We plan to rely on the exclusivity period under the orphan drug designation to maintain a competitive position. If we do not obtain orphan drug exclusivity for our drug products, which do not have patent protection, our competitors may then sell the same drug to treat the same condition.

Even though we have obtained orphan drug designation for certain of our product candidates and even if we obtain orphan drug designation for other products we develop, we cannot guarantee that we will

---

Risk factors

---

be the first to obtain marketing approval for any orphan indication or, if we do, that exclusivity would effectively protect the product from competition. Orphan drug designation neither shortens the development time or regulatory review time of a drug nor gives the drug any advantage in the regulatory review or approval process.

Because the target patient populations for some of our products are small, we must achieve significant market share and obtain high per-patient prices for our products to achieve profitability.

Two of our lead drug candidates, Aldurazyme and rhASB, target diseases with small patient populations. As a result, our per-patient prices must be relatively high in order to recover our development costs and achieve profitability. Aldurazyme targets patients with MPS I and rhASB targets patients with MPS VI. We estimate that there are approximately 3,400 patients with MPS I and 1,100 patients with MPS VI in the developed world. We believe that we will need to market worldwide to achieve significant market share. In addition, we are developing other drug candidates to treat conditions, such as other genetic diseases and serious burn wounds, with small patient populations. We cannot be certain that we will be able to obtain sufficient market share for our drug products at a price high enough to justify our product development efforts.

If we fail to obtain an adequate level of reimbursement for our drug products by third-party payers, there would be no commercially viable markets for our products.

The course of treatment for patients with MPS I using Aldurazyme and for patients with MPS VI using rhASB is expected to be expensive. We expect patients to need treatment throughout their lifetimes. We expect that most families of patients will not be capable of paying for this treatment themselves. There will be no commercially viable market for Aldurazyme or rhASB without reimbursement from third-party payers.

Third-party payers, such as government or private health care insurers, carefully review and increasingly challenge the prices charged for drugs. Reimbursement rates from private companies vary depending on the third-party payer, the insurance plan and other factors. Reimbursement systems in international markets vary significantly by country and by region, and reimbursement approvals must be obtained on a country-by-country basis. We cannot be certain that third-party payers will pay for the costs of our drugs. Even if we are able to obtain reimbursement from third-party payers, we cannot be certain that reimbursement rates will be enough to allow us to profit from sales of our drugs or to justify our product development expenses.

We currently have no expertise obtaining reimbursement. We expect to rely on the expertise of our joint venture partner Genzyme to obtain reimbursement for the costs of Aldurazyme. We cannot predict what the reimbursement rates will be. In addition, we will need to develop our own reimbursement expertise for future drug candidates unless we enter into collaborations with other companies with the necessary expertise.

We expect that, in the future, reimbursement will be increasingly restricted both in the United States and internationally. The escalating cost of health care has led to increased pressure on the health care industry to reduce costs. Governmental and private third-party payers have proposed health care reforms and cost reductions. A number of federal and state proposals to control the cost of health care, including the cost of drug treatments have been made in the United States. In some foreign markets, the government controls the pricing which would affect the profitability of drugs. Current government regulations and possible future legislation regarding health care may affect our future revenues from sales of our drugs and may adversely affect our business and prospects.

Risk factors

If we are unable to protect our proprietary technology, we may not be able to compete as effectively.

Where appropriate, we seek patent protection for certain aspects of our technology. Patent protection may not be available for some of the enzymes we are developing. If we must spend significant time and money protecting our patents, designing around patents held by others or licensing, for large fees, patents or other proprietary rights held by others, our business and financial prospects may be harmed.

The patent positions of biotechnology products are complex and uncertain. The scope and extent of patent protection for some of our products are particularly uncertain because key information on some of the enzymes we are developing has existed in the public domain for many years. Other parties have published the structure of the enzymes, the methods for purifying or producing the enzymes or the methods of treatment. The composition and genetic sequences of animal and/or human versions of many of our enzymes have been published and are believed to be in the public domain. The composition and genetic sequences of other MPS enzymes

that we intend to develop as products have also been published. Publication of this information may prevent us from obtaining composition-of-matter patents, which are generally believed to offer the strongest patent protection. For enzymes with no prospect of broad composition-of-matter patents, other forms of patent protection or orphan drug status may provide us with a competitive advantage. As a result of these uncertainties, investors should not rely on patents as a means of protecting our product candidates, including Aldurazyme.

We own or license patents and patent applications to certain of our product candidates. However, these patents and patent applications do not ensure the protection of our intellectual property for a number of other reasons:

- We do not know whether our patent applications will result in issued patents. For example, we may not have developed a method for treating a disease before others developed similar methods.

- Competitors may interfere with our patent process in a variety of ways. Competitors may claim that they invented the claimed invention prior to us. Competitors may also claim that we are infringing on their patents and therefore cannot practice our technology as claimed under our patent. Competitors may also contest our patents by showing the patent examiner that the invention was not original, was not novel or was obvious. In litigation, a competitor could claim that our issued patents are not valid for a number of reasons. If a court agrees, we would lose that patent. As a company, we have no meaningful experience with competitors interfering with our patents or patent applications.

- Enforcing patents is expensive and may absorb significant time of our management. Management would spend less time and resources on developing products, which could increase our research and development expense and delay product programs.

- Receipt of a patent may not provide much practical protection. If we receive a patent with a narrow scope, then it will be easier for competitors to design products that do not infringe on our patent.

In addition, competitors also seek patent protection for their technology. There are many patents in our field of technology, and we cannot guarantee that we do not infringe on those patents or that we will not infringe on patents granted in the future. If a patent holder believes our product infringes on their patent, the patent holder may sue us even if we have received patent protection for our technology. If someone else claims we infringe on their technology, we would face a number of issues, including:

- Defending a lawsuit takes significant time and can be very expensive.

- If the court decides that our product infringes on the competitor's patent, we may have to pay substantial damages for past infringement.

- The court may prohibit us from selling or licensing the product unless the patent holder licenses the patent to us. The patent holder is not required to grant us a license. If a license is available, we may have to pay substantial royalties or grant cross-licenses to our patents.

- Redesigning our product so it does not infringe may not be possible or could require substantial funds and time.

It is also unclear whether our trade secrets will provide useful protection. While we use reasonable efforts to protect our trade secrets, our employees or consultants may unintentionally or willfully disclose our information to competitors. Enforcing a claim that someone else illegally obtained and is using our trade secrets, like patent litigation, is expensive and time consuming, and the outcome is unpredictable. In addition, courts outside the United States are sometimes less willing to protect trade secrets. Our competitors may independently develop equivalent knowledge, methods and know-how.

We may also support and collaborate in research conducted by government organizations or by universities. We cannot guarantee that we will be able to acquire any exclusive rights to technology or products derived from these collaborations. If we do not obtain required licenses or rights, we could encounter delays in product development while we attempt to design around other patents or even be prohibited from developing, manufacturing or selling products requiring these licenses. There is also a risk that disputes may arise as to the rights to technology or products developed in collaboration with other parties.

The United States Patent and Trademark Office recently issued two patents that relate to (alpha)-L-iduronidase. If we are not able to successfully challenge these patents, we may be prevented from producing Aldurazyme unless and until we obtain a license.

The United States Patent and Trademark Office recently issued two patents that include composition of matter and method of use claims for recombinant (alpha)-L-iduronidase. Our lead drug product, Aldurazyme, is based on recombinant (alpha)-L-iduronidase. We believe that these patents are invalid on a number of grounds. A corresponding patent application was filed in the European Patent Office claiming composition of matter for recombinant (alpha)-L-iduronidase, and it was rejected over prior art and withdrawn and cannot be refiled. Nonetheless, under U.S. law, issued patents are entitled to a presumption of validity, and our challenges to the U.S. patents may be unsuccessful. Even if we are successful, challenging the U.S. patents may be expensive, require our management to devote significant time to this effort and may delay commercialization of Aldurazyme in the United States.

The patent holder has granted an exclusive license for products relating to these patents to one of our competitors. If we are unable to successfully challenge the patents, we may be unable to produce Aldurazyme in the United States unless we can obtain a sub-license from the current licensee. The current licensee is not required to grant us a license and even if a license is available, we may have to pay substantial license fees, which could adversely affect our business and operating results.

If our joint venture with Genzyme were terminated, we could be barred from commercializing Aldurazyme or our ability to commercialize Aldurazyme would be delayed or diminished.

We are relying on Genzyme to apply the expertise it has developed through the launch and sale of other enzyme-based products to the marketing of our initial drug product, Aldurazyme. Because it is our initial product, our operations are substantially dependent upon the development of Aldurazyme. We have no experience selling, marketing or obtaining reimbursement for pharmaceutical products. In addition, without Genzyme we would be required to pursue foreign regulatory approvals. We have no experience in seeking foreign regulatory approvals.

We cannot guarantee that Genzyme will devote the resources necessary to successfully market Aldurazyme. In addition, either party may terminate the joint venture for specified reasons, including if the other party is in material breach of the agreement or has experienced a change of control or has declared

bankruptcy and also is in breach of the agreement. Either party may also terminate the agreement upon one-year prior written notice for any reason. Furthermore, we may terminate the joint venture if Genzyme fails to fulfill its contractual obligation to pay us $12.1 million in cash upon the approval of the BLA for Aldurazyme.

If the joint venture is terminated for breach, the non-breaching party would be granted, exclusively, all of the rights to Aldurazyme and any related intellectual property and regulatory approvals and would be obligated to buy out the breaching party's interest in the joint venture. If we are the breaching party, we would lose our rights to Aldurazyme and the related intellectual property and regulatory approvals. If the joint venture is terminated without cause, the non-terminating party would have the option, exercisable for one year, to buy out the terminating party's interest in the joint venture and obtain all rights to Aldurazyme exclusively. In the event of termination of the buy out option without exercise by the non-terminating party as described above, all right and title to Aldurazyme is to be sold to the highest bidder, with the proceeds to be split equally between Genzyme and us.

If the joint venture is terminated by either party because the other declared bankruptcy and is also in breach of the agreement, the terminating party would be obligated to buy out the other and would obtain all rights to Aldurazyme exclusively. If the joint venture is terminated by a party because the other party experienced a change of control, the terminating party shall notify the other party, the offeree, of its intent to buy out the offeree's interest in the joint venture for a stated amount set by the terminating party at its discretion. The offeree must then either accept this offer or agree to buy the terminating party's interest in the joint venture on those same terms. The party who buys out the other would then have exclusive rights to Aldurazyme.

If we were obligated, or given the option, to buy out Genzyme's interest in the joint venture, and gain exclusive rights to Aldurazyme, we may not have sufficient funds to do so and we may not be able to obtain the financing to do so. If we fail to buy out Genzyme's interest we may be held in breach of the agreement and may lose any claim to the rights to Aldurazyme and the related intellectual property and regulatory approvals. We would then effectively be prohibited from developing and commercializing the product.

Termination of the joint venture in which we retain the rights to Aldurazyme could cause us significant delays in product launch in the United States, difficulties in obtaining third-party reimbursement and delays or failure to obtain foreign regulatory approval, any of which could hurt our business and results of operations. Since Genzyme funds 50% of the joint venture's operating expenses, the termination of the joint venture would double our financial burden and reduce the funds available to us for other product programs.

If we are unable to manufacture our drug products in sufficient quantities and at acceptable cost, we may be unable to meet demand for our products and lose potential revenues or have reduced margins.

With the exception of Aldurazyme, we have no experience manufacturing drug products in volumes that will be necessary to support commercial sales. Our manufacturing processes may not meet initial expectations as to schedule, reproducibility, yields, purity, costs, quality, and other measurements of performance. Improvements in manufacturing processes typically are very difficult to achieve and are often very expensive. We cannot know with certainty

how long it might take to make improvements if it became necessary to do so. If we contract for manufacturing services with an unproven process, our contractor is subject to the same uncertainties, high standards and regulatory controls.

The manufacture of Neutralase involves the fermentation of a bacterial species. We have never used a bacterial production process for the production of any clinical or commercial production. IBEX contracted with a third party for the manufacture of the Neutralase used in prior clinical trials.

The availability of suitable contract manufacturing at scheduled or optimum times is not certain. The cost of contract manufacturing is greater than internal manufacturing and therefore our manufacturing processes must be of higher productivity to yield equivalent margins.

Risk factors

If we are unable to establish and maintain commercial scale manufacturing within our planned time and cost parameters, sales of our products and our financial performance will be adversely affected.

Although we have successfully manufactured Aldurazyme at commercial scale within our cost parameters, we cannot guarantee that we will be able to manufacture any other drug product successfully with a commercially viable process or at a scale large enough to support their respective commercial markets or at acceptable margins.

We may encounter problems with any of the following if we attempt to increase the scale or size or improve the commercial viability of our manufacturing processes:

- Design, construction and qualification of manufacturing facilities that meet regulatory requirements
- Production yields
- Purity
- Quality control and assurance systems
- Shortages of qualified personnel
- Compliance with regulatory requirements

We have built-out approximately 67,000 square feet at our Novato facilities for manufacturing capability for Aldurazyme and rhASB including related quality control laboratories, materials capabilities, and support areas. We expect to complete an expansion of the Galli Drive facility in the fourth quarter of 2001 and possibly add additional capabilities in stages over time, which create additional operational complexity and challenges. We expect that the manufacturing process of all of our new drug products, including rhASB and Neutralase, will require significant time and resources before we can begin to manufacture them (or have them manufactured by third parties) in commercial quantity at acceptable cost. Even if we can establish the necessary capacity, we cannot be certain that manufacturing costs will be commercially reasonable, especially if contract manufacturing is employed or if third-party reimbursement is substantially lower than expected.

In order to achieve our product cost targets we must develop efficient

manufacturing processes either by:

- Improving the product yield from our current cell lines, colonies of cells which have a common genetic make-up,

- Improving the manufacturing processes licensed from others, or

- Developing more efficient, lower cost recombinant cell lines and production processes.

A recombinant cell line is a cell line with foreign DNA inserted that is used to produce an enzyme or other protein that it would not have otherwise produced. The development of a stable, high production cell line for any given enzyme is difficult, expensive and unpredictable and may not result in adequate yields. In addition, the development of protein purification processes is difficult and may not produce the high purity required with acceptable yield and costs or may not result in adequate shelf-lives of the final products. If we are not able to develop efficient manufacturing processes, the investment in manufacturing capacity sufficient to satisfy market demand will be much greater and will place heavy financial demands upon us. If we do not achieve our manufacturing cost targets, we will have lower margins and reduced profitability in commercial production and larger losses in manufacturing start-up phases.

If we are unable to increase our marketing and distribution capabilities or to enter into agreements with third parties to do so, our ability to generate revenues will be diminished.

If we cannot increase our marketing capabilities either by developing our sales and marketing organization or by entering into agreements with others, we may be unable to successfully sell our products. If we are unable to effectively sell our drug products, our ability to generate revenues will be diminished.

To increase our distribution and marketing for both our drug candidates, we will have to increase our current sales force and/or enter into third-party marketing and distribution agreements. We cannot guarantee that we will be able to hire in a timely manner the qualified sales and marketing personnel we need, if at all. Nor can we guarantee that we will be able to enter into any marketing or distribution agreements on acceptable terms, if at all. If we cannot increase our marketing capabilities as we intend, either by increasing our sales force or entering into agreements with third parties, sales of our products may be adversely affected.

Under our joint venture with Genzyme, Genzyme is responsible for marketing and distributing Aldurazyme. We cannot guarantee that we will be able to establish sales and distribution capabilities or that the joint venture, any future collaborators or we will successfully sell any of our drug products.

With our acquisition of Neutralase from IBEX Technologies Inc., we have an enzyme product that has a significantly larger potential patient population than Aldurazyme and rhASB and will be marketed and sold to different target audiences with different therapeutic and financial requirements and needs. As a result, we will be competing with other pharmaceutical companies with experienced and well-funded sales and marketing operations targeting these specific physician and institutional audiences. We may not be able to develop our own sales and marketing force at all, or of a size that would allow us to compete with these other companies. If we elect to enter into third-party marketing and

distribution agreements in order to sell into these markets, we may not be able to enter into these agreements on acceptable terms, if at all. If we cannot compete effectively in these specific physician and institutional markets, it would adversely affect sales of Neutralase.

If we fail to compete successfully, our revenues and operating results will be adversely affected.

Our competitors may develop, manufacture and market products that are more effective or less expensive than ours. They may also obtain regulatory approvals for their products faster than we can obtain them, including those products with orphan drug designation, or commercialize their products before we do. If our competitors successfully commercialize a product that treats a given rare genetic disease before we do, we will effectively be precluded from developing a product to treat that disease because the patient populations of the rare genetic diseases are so small. If our competitor gets orphan drug exclusivity, we could be precluded from marketing our version for seven years in the U.S. and ten years in the European Union. However, different drugs can be approved for the same condition. These companies also compete with us to attract qualified personnel and organizations for acquisitions, joint ventures or other collaborations. They also compete with us to attract academic research institutions as partners and to license these institutions' proprietary technology. If our competitors successfully enter into partnering arrangements or license agreements with academic research institutions, we will then be precluded from pursuing those specific opportunities. Since each of these opportunities is unique, we may not be able to find a substitute. Several pharmaceutical and biotechnology companies have already established themselves in the field of enzyme therapeutics, including Genzyme, our joint venture partner. These companies have already begun many drug development programs, some of which may target diseases that we are also targeting, and have already entered into partnering and

licensing arrangements with academic research institutions, reducing the pool of available opportunities.

Universities and public and private research institutions are also competitors. While these organizations primarily have educational or basic research objectives, they may develop proprietary technology and acquire patents that we may need for the development of our drug products. We will attempt to license this proprietary technology, if available. These licenses may not be available to us on acceptable terms, if at all. We also directly compete with a number of these organizations to recruit personnel, especially scientists and technicians.

We believe that established technologies provided by other companies, such as laboratory and testing services firms, compete with Glyko, Inc.'s products and services. For example, Glyko's FACE-Registered Trademark- Imaging System competes with alternative carbohydrate analytical technologies, including capillary electrophoresis, high-pressure liquid chromatography, mass spectrometry and nuclear magnetic resonance spectrometry. These competitive technologies have established customer bases and are more widely used and accepted by scientific and technical personnel because they can be used for non-carbohydrate applications. Companies competing with Glyko may have greater financial, manufacturing and marketing resources and experience.

If we do not achieve milestones as expected, our stock price may decline.

For planning purposes, we estimate the timing of the accomplishment of various scientific, clinical, regulatory and other milestones, such as the commencement or completion of scientific studies and clinical trials and the submission of regulatory filings. These estimates, some of which are included in this prospectus, are based on a variety of assumptions. The actual timing of these milestones can vary dramatically compared to our estimates, in many cases for reasons beyond our control.

If we fail to manage our growth or fail to recruit and retain personnel, our product development programs may be delayed.

Our rapid growth has strained our managerial, operational, financial and other resources. We expect this growth to continue. We have entered into a joint venture with Genzyme. If we receive FDA approval to market Aldurazyme, the joint venture will be required to devote additional resources to support the commercialization of Aldurazyme.

To manage expansion effectively, we need to continue to develop and improve our research and development capabilities, manufacturing and quality capacities, sales and marketing capabilities and financial and administrative systems. We cannot guarantee that our staff, financial resources, systems, procedures or controls will be adequate to support our operations or that our management will be able to manage successfully future market opportunities or our relationships with customers and other third parties.

Our future growth and success depend on our ability to recruit, retain, manage and motivate our employees. The loss of key scientific, technical and managerial personnel may delay or otherwise harm our product development programs. Any harm to our research and development programs would harm our business and prospects.

Because of the specialized scientific and managerial nature of our business, we rely heavily on our ability to attract and retain qualified scientific, technical and managerial personnel. In particular, the loss of Fredric D. Price, our Chairman and Chief Executive Officer, or Christopher M. Starr, Ph.D., our Vice President for Research and Development, could be detrimental to us if we cannot recruit suitable replacements in a timely manner. While Mr. Price and Dr. Starr are parties to employment agreements with us, we cannot guarantee that they will remain employed with us in the future. In

addition, these agreements do not restrict their ability to compete with us after their employment is terminated. The competition for qualified personnel in the biopharmaceutical field is intense. We cannot be certain that we will continue to attract and retain qualified personnel necessary for the development of our business.

If we fail to effectively integrate the recently acquired Neutralase and Phenylase programs into our current operations, the efficient execution of these product programs could be delayed and our operating and research and development expenditures could increase beyond anticipated levels.

Our recent acquisition of assets from IBEX Technologies Inc., including the Neutralase and Phenylase product programs, will need to be integrated with our current operations. This will include several technical and administrative challenges, including managing the information transfer, integrating certain of IBEX's former technical staff into our research and development structure and managing multiple operations in different countries. If we do not accomplish

this integration effectively, our programs could be delayed and our operating and research and development expenditures could increase beyond anticipated levels. Additionally, the integration could require a significant time commitment from our senior management.

Changes in methods of treatment of disease could reduce demand for our products.

Even if our drug products are approved, doctors must use treatments that require using those products. If doctors elect a different course of treatment from that which includes our drug products, this decision would reduce demand for our drug products.

Examples include the potential use in the future of effective gene therapy for the treatment of genetic diseases. The use of gene therapy could theoretically reduce or eliminate the use of enzyme replacement therapy in MPS diseases. Sometimes, this change in treatment method can be caused by the introduction of other companies' products or the development of new technologies or surgical procedures which may not directly compete with ours, but which have the effect of changing how doctors decide to treat a disease. For example, Neutralase is being developed for heparin reversal in CABG surgery. It is possible that alternative non-surgical methods of treating heart disease could be developed. If so, then the demand for Neutralase would likely decrease.

If product liability lawsuits are successfully brought against us, we may incur substantial liabilities.

We are exposed to the potential product liability risks inherent in the testing, manufacturing and marketing of human pharmaceuticals. The BioMarin/Genzyme LLC maintains product liability insurance for our clinical trials of Aldurazyme. We have obtained insurance against product liability lawsuits for the clinical trials for rhASB. We may be subject to claims in connection with our current clinical trials for Aldurazyme and rhASB for which the joint venture's or our insurance coverages are not adequate. We cannot be certain that if Aldurazyme receives FDA approval, the product liability insurance the joint venture will need to obtain in connection with the commercial sales of Aldurazyme will be available in meaningful amounts or at a reasonable cost. In addition, we cannot be certain that we can successfully defend any product liability lawsuit brought against us. If we are the subject of a successful product liability claim which exceeds the limits of any insurance coverage we may obtain, we may incur substantial liabilities which would adversely affect our earnings and financial condition.

Risk factors

Our stock price may be volatile, and an investment in our stock could suffer a decline in value.

Our valuation and stock price since the beginning of trading after our initial public offering have had no meaningful relationship to current or historical earnings, asset values, book value or many other criteria based on conventional measures of stock value. The market price of our common stock will fluctuate due to factors including:

- Progress of Aldurazyme, Neutralase, rhASB and our other lead drug products through the regulatory process, especially regulatory actions in the United States related to Aldurazyme

- Results of clinical trials, announcements of technological innovations or

new products by us or our competitors

- Government regulatory action affecting our drug products or our competitors' drug products in both the United States and foreign countries

- Developments or disputes concerning patent or proprietary rights

- General market conditions and fluctuations for the emerging growth and biopharmaceutical market sectors

- Economic conditions in the United States or abroad

- Actual or anticipated fluctuations in our operating results

- Broad market fluctuations in the United States or in Europe, which may cause the market price of our common stock to fluctuate

- Changes in company assessments or financial estimates by securities analysts

In addition, the value of our common stock may fluctuate because it is listed on both the Nasdaq National Market and the Swiss Exchange's SWX New Market. Listing on both exchanges may increase stock price volatility due to:

- Trading in different time zones

- Different ability to buy or sell our stock

- Different market conditions in different capital markets

- Different trading volume

In the past, following periods of large price declines in the public market price of a company's securities, securities class action litigation has often been initiated against that company. Litigation of this type could result in substantial costs and diversion of management's attention and resources, which would hurt our business. Any adverse determination in litigation could also subject us to significant liabilities.

If you purchase our common stock in this offering, you will incur immediate dilution in the book value of your shares.

You will experience an immediate dilution of $9.07 per share in the net tangible book value per share of our common stock, at the assumed public offering price of $12.05 per share. In addition, this dilution will be increased to the extent that holders of outstanding options and warrants to purchase our common stock at prices below our net tangible book value per share after this offering exercise those options or warrants.

Risk factors

If our officers, directors and largest stockholder elect to act together, they may be able to control our management and operations, acting in their best interests and not necessarily those of other stockholders.

Without giving effect to this offering, our directors and officers control approximately 35% of the outstanding shares of our common stock. Without giving effect to this offering, Glyko Biomedical Ltd. owns approximately 26% of the outstanding shares of our capital stock. The president and chief executive

officer of Glyko Biomedical and a significant shareholder of Glyko Biomedical serve as two of our directors. As a result, due to their concentration of stock ownership, directors and officers, if they act together, may be able to control our management and operations, and may be able to prevail on all matters requiring a stockholder vote including:

- The election of all directors;

- The amendment of charter documents or the approval of a merger, sale of assets or other major corporate transactions; and

- The defeat of any non-negotiated takeover attempt that might otherwise benefit the public stockholders.

Anti-takeover provisions in our charter documents and under Delaware law may make an acquisition of us, which may be beneficial to our stockholders, more difficult.

We are incorporated in Delaware. Certain anti-takeover provisions of Delaware law and our charter documents as currently in effect may make a change in control of our company more difficult, even if a change in control would be beneficial to the stockholders. Our anti-takeover provisions include provisions in the certificate of incorporation providing that stockholders' meetings may only be called by the board of directors and a provision in the bylaws providing that the stockholders may not take action by written consent. Additionally, our board of directors has the authority to issue 1,000,000 shares of preferred stock and to determine the terms of those shares of stock without any further action by the stockholders. The rights of holders of our common stock are subject to the rights of the holders of any preferred stock that may be issued. The issuance of preferred stock could make it more difficult for a third party to acquire a majority of our outstanding voting stock. Delaware law also prohibits corporations from engaging in a business combination with any holders of 15% or more of their capital stock until the holder has held the stock for three years unless, among other possibilities, the board of directors approves the transaction. Our board of directors may use these provisions to prevent changes in the management and control of our company. Also, under applicable Delaware law, our board of directors may adopt additional anti-takeover measures in the future.

Forward-looking statements

This prospectus contains forward-looking statements. These statements relate to future events or our future financial performance. We have identified forward-looking statements in this prospectus using words such as "anticipates," "believes," "could," "estimates," "expects," "intends," "may," "plans," "potential," "predicts," "should," or "will" or the negative of such terms or other comparable terminology. These statements are based on our beliefs as well as assumptions we made using information currently available to us. Because these statements reflect our current views concerning future events, these statements involve risks, uncertainties, and assumptions. These risks, uncertainties, assumptions and other factors, including the risks outlined under "Risk Factors," that may cause our or our industry's actual results, levels of activity, performance or achievements to be materially different from future results, levels of actual activity, performance or achievements expressed or implied by such forward looking statements.

Although we believe that the expectations reflected in the forward looking

statements are reasonable, we cannot guarantee future results, levels of activity, performance or achievements. Moreover, neither we nor any other person assumes responsibility for the accuracy and completeness of such statements. We are under no duty to update any of the forward looking statements after the date of this prospectus to conform such statements to actual results, unless required by law.

Use of Proceeds

We estimate that the net proceeds from the sale of shares of common stock we are offering at an assumed public offering price of $12.05 per share will be approximately $67.8 million. If the underwriters fully exercise their over-allotment option, the net proceeds from the sale of the shares we are offering will be approximately $78.0 million. "Net proceeds" are what we expect to receive after deducting the underwriting discount and paying our other estimated expenses of this offering.

We intend to use the net proceeds of this offering for the development and commercialization of our lead product candidate, Aldurazyme; additional clinical trials and the manufacturing of Neutralase; preclinical studies and clinical trials for our other product candidates; potential licenses and other acquisitions of complementary technologies and products; general corporate purposes; and working capital.

The timing and amount of our actual expenditures are subject to change and will be based on many factors, including:

- The progress, timing and scope of our preclinical studies and clinical trials;

- The time and cost necessary to obtain regulatory approvals;

- The time and cost necessary to develop commercial manufacturing processes, including quality systems and to build or acquire manufacturing capability;

- The time and cost necessary to respond to technological and market developments; and

- Any changes made or new developments in our existing collaborative, licensing and other commercial relationships or any new collaborative, licensing and other commercial relationships that we may establish.

We have discussions from time to time regarding potential acquisitions and licensing opportunities. Although we may use a portion of the net proceeds for this purpose, we currently have no material agreements or commitments in this regard. We reserve the right, at the sole discretion of our Board of Directors, to reallocate our use of proceeds in response to these and other factors. Until we use the net proceeds of this offering, we intend to invest the funds in interest-bearing securities.

Market Price of Common Stock

Our common stock is publicly traded through the Nasdaq National Market and the Swiss SWX New Market under the symbol "BMRN." The following table sets forth, for the periods indicated, the high and low sales prices of our common stock, as reported on the Nasdaq National Market.

Fiscal Year Ended December 31, 1999	High	Low
Third Quarter (beginning July 22)	$ 19.25	$11.00
Fourth Quarter	17.38	10.00

Fiscal Year Ended December 31, 2000	High	Low
First Quarter	$ 41.25	$11.75
Second Quarter	30.38	16.00
Third Quarter	21.86	15.75
Fourth Quarter	18.50	6.94

Fiscal Year Ended December 31, 2001	High	Low
First Quarter	$ 13.25	$ 6.56
Second Quarter	13.29	7.50
Third Quarter	13.74	8.07
Fourth Quarter (through November 8, 2001)	13.85	8.65

On November 8, 2001, the last reported sale price of our common stock on the Nasdaq National Market was $12.05 per share. As of November 6, 2001, there were approximately 82 stockholders of record of our common stock.

Capitalization

The following table shows:

- our actual capitalization on September 30, 2001; and
- our capitalization on September 30, 2001, on an as adjusted basis assuming the completion of this offering at an assumed public offering price of $12.05 per share, less the underwriting discount and estimated expenses payable by us.

	September 30, 2001	
	Actual	As Adjusted
(unaudited, in thousands)		

Cash, cash equivalents and short term investments.....	$ 43,905	$ 111,685
Long-term liabilities.....	$ 146	$ 146
Stockholders' equity:		
Preferred Stock, $.001 par value, 1,000,000 shares authorized; no shares issued or outstanding.....	--	--
Common stock, $0.001 par value, 75,000,000 shares authorized; 42,253,611 shares issued and outstanding, actual and 48,253,611 shares issued and outstanding, as adjusted.....	42	48
Additional paid in capital.....	195,104	262,878
Common stock warrants.....	5,134	5,134
Deferred compensation.....	(903)	(903)
Notes from stockholders.....	(2,014)	(2,014)
Deficit accumulated during development stage.....	(113,197)	(113,197)
Total stockholders' equity.....	84,166	151,946
Total liabilities and stockholders' equity.....	$ 90,402	$ 158,182

The number of shares of our common stock in the actual and as adjusted columns in the table above excludes:

- 6,933,981 shares of our common stock issuable upon exercise of outstanding options issued under our stock option plans at a weighted average exercise price of $10.81 per share at September 30, 2001;

- an additional 1,762,792 shares of common stock available for future issuance under our stock option plans and employee stock purchase plan at September 30, 2001; and

- 752,427 shares of our common stock issuable upon exercise of outstanding warrants at a weighted average exercise price of $12.99 per share as of September 30, 2001.

This table does not give effect to:

- a cash payment of $2.0 million and the issuance and sale of 814,647 shares of our common stock which we recently paid to IBEX Technologies Inc. and certain of its affiliates in connection with our October 31, 2001 acquisition of their pharmaceutical assets, or

- the issuance and sale of an aggregate 1,061,676 shares of our common stock to Acqua Wellington North American Equities Fund, Ltd. and the $10.5 million proceeds therefrom in October 2001.

Dilution

Our net tangible book value on September 30, 2001 was $75.9 million, or approximately $1.80 per share. "Net tangible book value" is total assets minus the sum of liabilities and intangible assets. "Net tangible book value per share" is net tangible book value divided by the total number of shares of

common stock outstanding.

Net tangible book value dilution per share to new investors represents the difference between the amount per share paid by purchasers of shares of common stock in this offering and the net tangible book value per share of our common stock immediately after completion of this offering. After giving effect to the sale of 6,000,000 shares of our common stock in this offering at an assumed public offering price of $12.05 per share and after deducting the underwriting discount and our estimated offering expenses, our net tangible book value as of September 30, 2001 would have been $2.98 per share. This amount represents an immediate increase in net tangible book value of $1.18 per share to existing stockholders and an immediate dilution in net tangible book value of $9.07 per share to purchasers of common stock in this offering, as illustrated in the following table:

Assumed public offering price per share.....		$12.05
Net tangible book value per share as of September 30, 2001.....	$ 1.80	
Increase in net tangible book value per share attributable to this offering	1.18	
Pro forma net tangible book value per share as of September 30, 2001 after giving effect to this offering...		2.98
Dilution per share to new investors in this offering.....		$ 9.07

This table:

- assumes no exercise of options to purchase 6,933,981 shares of common stock at a weighted average exercise price of $10.81 per share outstanding as of September 30, 2001; and

- assumes no exercise of warrants to purchase 752,427 shares of common stock at a weighted average exercise price of $12.99 per share outstanding as of September 30, 2001.

To the extent that these options and warrants are exercised there will be further dilution to new investors.

24

Selected consolidated financial data

This section presents our selected consolidated financial data. You should carefully read the financial statements included in the reports incorporated by reference in this prospectus, including the notes to the financial statements included in those reports. The selected data in this section is not intended to replace the financial statements.

We derived the statement of operations data for the interim period from March 21, 1997 through December 31, 1997 and the years ended December 31, 1998, 1999 and 2000 and balance sheet data as of December 31, 1997, 1998, 1999 and 2000 from audited financial statements. We derived the statement of operations data for the nine months ended September 30, 2000 and 2001 and the balance sheet data as of September 30, 2001 from our unaudited financial statements included

in the reports incorporated by reference in this prospectus. We believe that the unaudited historical financial statements contain all adjustments needed to present fairly the information included in those financial statements and that the adjustments made consist only of normal recurring adjustments. Historical results are not necessarily indicative of results that we may expect in the future.

Consolidated Statements of Operations Data:	Period from March 21, 1997 (inception) to December 31, 1997	Year Ended December 31 1998	1999	
		(in thousands, except for per s		
Revenues	$ --	$ 1,190	$ 6,976	$ 1
Operating costs and expenses:				
Cost of products and services	--	108	464	
Research and development	1,914	10,502	27,206	3
Selling, general and administrative	914	3,532	6,805	
Carson Street closure	--	--	--	
Total costs and expenses	2,828	14,142	34,475	4
Loss from operations	(2,828)	(12,952)	(27,499)	(3
Interest income	65	685	1,832	
Interest expense	--	--	(732)	
Equity in loss of joint venture	--	(47)	(1,673)	(
Net loss	$(2,763)	$(12,314)	$(28,072)	$(3
Net loss per common share, basic and diluted	$ (0.34)	$ (0.55)	$ (0.94)	$
Weighted average common shares outstanding	8,136	22,488	29,944	3

Consolidated Balance Sheet Data:	As of December 31, 1997	1998	1999	
Cash, cash equivalents and short-term investments	$6,888	$11,389	$62,986	$40,
Total current assets	7,507	12,819	66,422	44,
Total assets	7,653	31,510	103,549	76,
Long-term liabilities	--	110	85	
Total stockholders' equity	7,380	29,394	98,377	69,

See notes to our consolidated financial statements incorporated by reference in this prospectus for a description of the number of shares used in the computation of the net loss per common share.

25

Selected consolidated financial data

This table does not give effect to:

- a cash payment of $2.0 million and the issuance and sale of 814,647 shares of our common stock which we recently paid to IBEX Technologies Inc. and certain of its affiliates in connection with our October 31, 2001 acquisition of their pharmaceutical assets, or

- the issuance and sale of an aggregate 1,061,676 shares of our common stock to Acqua Wellington North American Equities Fund, Ltd. and the $10.5 million proceeds therefrom in October 2001.

26

Management

The following table sets forth certain information concerning our executive officers as of November 8, 2001.

Name	Age	Position with BioMarin
Fredric D. Price	55	Chairman and Chief Executive Officer
Raymond W. Anderson	59	Chief Operating Officer, Chief Financial Officer, Secretary and Vice President, Finance and Administration
Christopher M. Starr, Ph.D.	48	Vice President, Research and Development
John L. Jost, Ph.D.	56	Vice President, Manufacturing
Robert A. Baffi, Ph.D.	46	Vice President, Quality Assurance/Quality Control
Emil D. Kakkis, M.D., Ph.D.	41	Vice President, Business Development
Stuart J. Swiedler, M.D., Ph.D.	45	Vice President, Scientific and Clinical Affairs
Brian K. Brandley, Ph.D.	44	Vice President of BioMarin and Managing Director, Glyko, Inc., a wholly-owned subsidiary of BioMarin

FREDRIC D. PRICE, CHAIRMAN AND CHIEF EXECUTIVE OFFICER

Mr. Price has served as Chairman and Chief Executive Officer since November 2000. From September 1994 until September 2000, Mr. Price was President, CEO, and a member of the board of directors of AMBI Inc., formerly Applied Microbiology, a biotechnology and nutrition company. Prior to that, he

served as Vice President, Finance and Administration and CFO of Regeneron Pharmaceuticals and, before that, was a strategy consultant for biopharmaceutical CEOs and investment groups. Mr. Price began his career at Pfizer Pharmaceuticals, where he simultaneously held line and staff positions as Vice President, reporting directly to a member of the board of Pfizer Inc. Mr. Price received an M.B.A. from the Wharton School of the University of Pennsylvania and a B.A. from Dartmouth College. He is a member of the board of directors of LifeSpan BioSciences and a member of the advisory board of equity41life, a health care investment company based in Zurich, Switzerland.

RAYMOND W. (BILL) ANDERSON, CHIEF OPERATING OFFICER, CHIEF FINANCIAL OFFICER AND VICE PRESIDENT, FINANCE & ADMINISTRATION

Mr. Anderson has served as Chief Operating Officer since May 2000 and has been Chief Financial Officer and Vice President, Finance and Administration since June 1998. Mr. Anderson served as the Chief Financial Officer and Vice President, Finance at Fusion Medical Technologies, Inc., a medical technology company, developing drug delivery systems from July 1997 to June 1998. Mr. Anderson served as the Vice President, Finance and Chief Financial Officer at Fidus Medical Technology, Inc., a medical technology company from October 1996 to July 1997. Prior to that, Mr. Anderson held numerous senior management positions, including CFO at Chiron and Glycomed and Controller at Syntex Laboratories. From 1994 to 1996, Mr. Anderson served as a Director of Recombinant Capital.

Mr. Anderson holds an M.B.A. from the Harvard Graduate School of Business Administration, an M.S. in administration from The George Washington University and a B.S. in engineering from the United States Military Academy.

CHRISTOPHER M. STARR, PH.D., CO-FOUNDER AND VICE PRESIDENT, RESEARCH AND DEVELOPMENT

Dr. Starr is one of our co-founders and currently serves as Vice President, Research and Development. From July 1991 to April 1998, Dr. Starr served as Vice President, Research and Development for Glyko, Inc. Dr. Starr was a National Research Council Associate at the National Institutes of Health (NIH). He has published numerous peer-reviewed articles, including research papers on Fluorophore-Assisted Carbohydrate Electrophoresis (FACE) in the diagnosis of lysosomal storage diseases and in the identification of patients with MPS I. His work in the development of diagnostic tests for lysosomal storage diseases has been funded by several grants from the NIH and other institutions. Dr. Starr holds a Ph.D. in biochemistry and molecular biology from the State University of New York Health Science Center and a B.S. from Syracuse University.

JOHN L. JOST, PH.D., VICE PRESIDENT, MANUFACTURING

Dr. Jost has served as Vice President, Manufacturing since June 1999. Dr. Jost devoted his time from November 1997 to June 1999 to personal affairs. From February 1983 to November 1997, Dr. Jost held a variety of management and scientific positions at Genentech. During his tenure at Genentech, Dr. Jost also led a variety of development projects focusing on products such as Tumor Necrosis Factor (TNF), Gamma Interferon, Human Growth Hormone (hGH), animal interferons, and human serum albumin. These programs contributed to numerous IND, NDA, BLA, and BLA supplement submissions. Prior to joining Genentech, Dr. Jost served in various scientific positions in process development at The Upjohn Company, culminating in his role as a senior research scientist.

Dr. Jost received a Ph.D. and B.S. in chemical engineering from the University of Minnesota.

ROBERT A. BAFFI, PH.D., VICE PRESIDENT, QUALITY ASSURANCE & QUALITY CONTROL

Dr. Baffi has served as Vice President of Quality Assurance and Quality Control since May 2000. From 1986 to 2000, Dr. Baffi served in a number of progressively more responsible positions at Genentech, primarily in the functional area of quality control. Prior to Genentech, Dr. Baffi worked for Cooper BioMedical as a research scientist and at Becton Dickinson Research Center as a post-doctoral fellow. Dr. Baffi has contributed to more than 20 major regulatory submissions for product approval in the United States and Europe and to more than 50 regulatory submissions for investigational new drug testing. Dr. Baffi received a Ph.D. in biochemistry, as well as an M.Phil. and a B.S. in biochemistry from the City University of New York.

EMIL D. KAKKIS, M.D., PH.D., VICE PRESIDENT, SCIENTIFIC AND BUSINESS DEVELOPMENT

Dr. Kakkis has served as a Vice President, since September 1998. From July 1994 to August 1998, Dr. Kakkis held the position of Assistant Professor at the Harbor-UCLA Medical Center, Division of Genetics, Department of Pediatrics, together with his colleague, Elizabeth F. Neufeld, Ph.D., of the University of California at Los Angeles (UCLA), Dr. Kakkis developed Aldurazyme, a recombinant form of (alpha)-L-iduronidase, the enzyme deficient in MPS I patients. From 1991 to 1994, he completed a fellowship in genetics at the UCLA Intercampus Medical Genetics training program and, prior to that, conducted his pediatric residency at the Harbor-UCLA Medical Center. Dr. Kakkis is the author of numerous published articles and abstracts on MPS I and (alpha)-L-iduronidase. He holds an M.D. and a Ph.D. in biological chemistry from the Medical Scientist training program at the UCLA School of Medicine. He is board-certified in pediatrics and medical genetics.

STUART J. SWIEDLER, M.D., PH.D., VICE PRESIDENT, SCIENTIFIC AND CLINICAL AFFAIRS

Dr. Swiedler has served as Vice President, Scientific and Clinical Affairs since June 1998. From November 1997 to June 1998, Dr. Swiedler was an independent technology consultant. From May 1995 to November 1997, Dr. Swiedler served as Vice President, Research Programs at Glycomed. Dr. Swiedler's biotechnology experience includes six years of post-doctoral work at the Yale University and Duke University schools of medicine. He is board-certified in anatomic pathology and has conducted extensive research in the molecular biology of carbohydrate enzymes. Dr. Swiedler holds five patents and is the author of 20 peer-reviewed journal articles. Dr. Swiedler holds a Ph.D. from the Johns Hopkins University School of Medicine, Biochemistry, Cellular, and Molecular Biology training program, an M.D. from the Johns Hopkins School of Medicine, and a B.S. from the State University of New York at Albany.

BRIAN K. BRANDLEY, PH.D., VICE PRESIDENT & MANAGING DIRECTOR, GLYKO, INC.

Dr. Brandley joined us in 1998 as Vice President and also Managing Director of Glyko. From July 1995 to April 1998, Dr. Brandley was Assistant Professor in the Department of Pharmacology at Rush University, where his research focused on the role of carbohydrates in angiogenesis and in vitro models of endothelial cell biology. Dr. Brandley previously served as Senior Scientist and Head of the Cell Biology Laboratory at Glycomed. He also has five years of post-doctoral research experience at the Medical University of South Carolina and the Johns Hopkins

University School of Medicine. Dr. Brandley is the author of 27 publications in peer-reviewed journals and holds 14 patents. He earned a Ph.D. in biology from the University of Sydney, an M.S. in biology from the University of Miami, and a B.S. with honors from the University of Miami.

Underwriting

We and the underwriters for this offering named below have entered into an underwriting agreement concerning the shares being offered. Subject to conditions, each underwriter has severally agreed to purchase the number of shares indicated in the following table. UBS Warburg LLC, CIBC World Markets Corp. and U.S. Bancorp Piper Jaffray Inc. are the representatives of the underwriters. UBS Warburg LLC is the sole book-running manager of this offering.

Underwriters	Number of shares
UBS Warburg LLC.....	
CIBC World Markets Corp.	
U.S. Bancorp Piper Jaffray Inc.	
Total.....	6,000,000

If the underwriters sell more shares than the total number set forth in the table above, the underwriters have a 30-day option to buy up to 900,000 shares from us at the public offering price less the underwriting discounts and commissions to cover these sales. If any shares are purchased under this option, the underwriters will severally purchase shares in approximately the same proportion as set forth in the table above.

The following table provides information regarding the amount of the discount to be paid to the underwriters by us. These amounts are shown assuming both no exercise and full exercise of the underwriters' option to purchase up to an additional 900,000 shares.

	No Exercise	Full Exercise
Per share.....	$	$
Total.....	$	$

We estimate that the total expenses of this offering payable by us, excluding underwriting discounts and commissions, will be about $182,000.

Shares sold by the underwriters to the public will initially be offered at the public offering price set forth on the cover of this prospectus. Any shares sold by the underwriters to securities dealers may be sold at a discount of up to $ per share from the public offering price. Any of these securities dealers may resell any shares purchased from the underwriters to other brokers

or dealers at a discount of up to $ per share from the public offering price. If all the shares are not sold at the public offering price, the representatives may change the offering price and the other selling terms.

We and each of our directors and executive officers have agreed with the underwriters not to offer, sell, contract to sell, hedge or otherwise dispose of, directly or indirectly, any of our common stock or securities convertible into or exchangeable for shares of common stock during the period from the date of this prospectus continuing through the date 90 days after the date of this prospectus without the prior written consent of UBS Warburg LLC.

In connection with this offering, the underwriters may purchase and sell shares of our common stock in the open market. These transactions may include stabilizing transactions, short sales and purchases to cover positions created by short sales. Stabilizing transactions consist of bids or purchases made for the purpose of preventing or retarding a decline in the market price of our common stock while this offering is in progress. Short sales involve the sale by the underwriters of a greater number of shares

---

---

than they are required to purchase in this offering. Short sales may be either "covered short sales" or "naked short sales." Covered short sales are sales made in an amount not greater than the underwriters' over-allotment option to purchase additional shares in this offering. The underwriters may close out any covered short position by either exercising their over-allotment option or purchasing shares in the open market. In determining the source of shares to close out the covered short position, the underwriters will consider, among other things, the price of shares available for purchase in the open market as compared to the price at which they may purchase shares through the over-allotment option. Naked short sales are sales in excess of the over-allotment option. The underwriters must close out any naked short position by purchasing shares in the open market. A naked short position is more likely to be created if the underwriters are concerned there may be downward pressure on the price of shares in the open market after pricing that could adversely affect investors who purchase in this offering.

The underwriters also may impose a penalty bid. This occurs when a particular underwriter repays to the underwriters a portion of the underwriting discount received by it because the representatives have repurchased shares sold by or for the account of that underwriter in stabilizing or short covering transactions.

These activities by the underwriters may stabilize, maintain or otherwise affect the market price of our common stock. As a result, the price of our common stock may be higher than the price that otherwise might exist in the open market. If these activities are commenced, they may be discontinued by the underwriters at any time. These transactions may be effected on the Nasdaq National Market or otherwise.

In addition, in connection this offering certain of the underwriters (and selling group members) may engage in passive market making transactions in the common stock on the Nasdaq National Market prior to the pricing and completion of the offering. Passive market making consists of displaying bids on the Nasdaq National Market no higher than the bid prices of independent market makers and making purchases at prices no higher than these independent bids and effected in response to order flow. Net purchases by a passive market maker on each day are limited to a specified percentage of the passive market maker's average daily

trading volume in the common stock during a specified period and must be discontinued when such limit is reached. Passive market making may cause the price of the common stock to be higher than the price that otherwise would exist in the open market in the absence of such transactions. If passive market making is commenced, it may be discontinued at any time.

We have agreed to indemnify the several underwriters against some liabilities, including liabilities under the Securities Act of 1933, and to contribute to payments that the underwriters may be required to make in respect thereof.

UBS Warburg and U.S. Bancorp Piper Jaffray Inc. have in the past provided financial advisory services to us. For these services, we have paid them customary compensation.

WHERE YOU CAN FIND MORE INFORMATION

We have filed with the Securities and Exchange Commission a Registration Statement on Form S-3 under the Securities Act of 1933. This prospectus is part of that registration statement and does not contain all of the information set forth in the registration statement and its exhibits. You may obtain further information with respect to BioMarin by reviewing the registration statement and the attached exhibits, which you may read and copy in public reference rooms at the following locations of the Securities and Exchange Commission:

Public Reference Room Judiciary Plaza 450 Fifth Street, N.W., Rm. 1024 Washington, D.C. 20549	New York Regional Office Woolworth Building 233 Broadway New York, New York 10279	Chicago Regional Office Citicorp Center 500 West Madison Street, Suite 1400 Chicago, Illinois 60661-2511

We are subject to the informational requirements of the Securities Exchange Act of 1934. Accordingly, we file reports, proxy statements and other information with the Securities and Exchange Commission. Such reports, proxy statements and other information can be inspected and copied at the locations described above. Copies of these materials can be obtained from the public reference rooms of the Securities and Exchange Commission at the above locations, at prescribed rates. You can call the Securities and Exchange Commission at 1-800-732-0330 for further information about the public reference rooms. The Securities and Exchange Commission maintains a web site that contains the registration statement, reports, proxy statements and other information regarding BioMarin at http://www.sec.gov. Reports, proxy statements and other information concerning BioMarin may be inspected at the Nasdaq Stock Market at 1735 K Street, N.W., Washington, D.C. 20006.

INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

The Securities and Exchange Commission allows us to "incorporate by reference" information that we file with them, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is an important part of this prospectus, and information that we file later with the Securities and Exchange Commission will automatically update and supersede this information. Further, all filings we make under the Securities Exchange Act of 1934 after the date of the initial registration statement and prior to effectiveness of the registration statement

shall be deemed to be incorporated by reference into this prospectus. We incorporate by reference the documents listed below and any future filings we will make with the Securities and Exchange Commission under Section 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934:

- Our Annual Report on Form 10-K for the year ended December 31, 2000;

- Our Definitive Proxy Statement dated April 3, 2001 filed in connection with our 2001 Annual Meeting of Stockholders;

- Our Quarterly Reports on Form 10-Q for the quarters ended March 31, 2001 June 30, 2001 and September 30, 2001;

- Our Current Reports on Form 8-K, as filed on May 18, 2001, June 25, 2001, August 16, 2001, September 6, 2001, September 11, 2001, October 10, 2001, October 26, 2001, and two reports filed on November 2, 2001; and

---

- The description of our common stock set forth in our Form 8-A, filed with the SEC on July 15, 1999.

We will provide to you at no cost a copy of any and all of the information incorporated by reference into the registration statement of which this prospectus is a part. You may make a request for copies of this information in writing or by telephone. Requests should be directed to:

BioMarin Pharmaceutical Inc.

Attention: Mr. Jeremy Price

371 Bel Marin Keys Boulevard, Suite 210

Novato, CA 94949

(415) 884-6777

Any statement contained in a document incorporated or deemed to be incorporated by reference in this prospectus shall be deemed modified, superceded or replaced for purposes of this prospectus to the extent that a statement contained in this prospectus, or in any subsequently filed document that also is deemed to be incorporated by reference in this prospectus, modifies, supercedes or replaces such statement. Any statement so modified, superceded or replaced shall not be deemed, except as so modified, superceded or replaced, to constitute a part of this prospectus.

LEGAL MATTERS

For the purpose of this offering, Paul, Hastings, Janofsky & Walker LLP, Los Angeles, California is giving an opinion of the validity of the issuance of the securities offered in this prospectus. Dewey Ballantine LLP, New York, New York, is counsel for the underwriters in connection with the offering.

EXPERTS

The financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2000, incorporated by reference in this prospectus and elsewhere in the registration statement, have been audited by Arthur Andersen LLP, independent public accountants, as indicated in their report with respect

thereto, and are included herein in reliance upon the authority of said firm as experts in giving said report.

[LOGO]

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

ITEM 14. OTHER EXPENSES OF ISSUANCE AND DISTRIBUTION

The following table sets forth the costs and expenses to be paid by the registrant in connection with the sale of the common stock being registered:

Securities and Exchange Commission registration fee.....	$ 20,907
Legal fees and expenses.....	$ 44,730
Accountants' fees and expenses.....	$ 50,000
NASD filing fee.....	$ 8,863
Printing fees.....	$ 20,000
NASDAQ listing fee.....	$ 22,500
Transfer agent fees.....	$ 10,000
Miscellaneous.....	$ 5,000
Total.....	$182,000

The foregoing items, except for the Securities and Exchange Commission registration fee, are estimated.

ITEM 15. INDEMNIFICATION OF DIRECTORS AND OFFICERS

Reference is made to the Amended and Restated Certificate of Incorporation with the Registrant; the Bylaws of the Registrant; Section 145 of the Delaware General Corporation Law; which, among other things, and subject to certain conditions, authorize the Registrant to indemnify, or indemnify by their terms, as the case may be, the directors and officers of the Registrant against certain liabilities and expenses incurred by such persons in connection with claims made by reason of their being such a director or officer. Pursuant to this authority, the Registrant has entered into an indemnification agreement with each director and executive officer, whereby the Registrant has agreed to cover the indemnification obligations.

The Registrant maintains directors' and officers' insurance providing indemnification against certain liabilities for certain of the Registrant's directors, officers, affiliates, partners or employees.

The indemnification provisions in the Registrant's Bylaws, and the indemnification agreements entered into between the Registrant and its directors and executive officers, may be sufficiently broad to permit indemnification of the Registrant's officers and directors for liabilities arising under the Act.

Reference is made to the following documents incorporated by reference into this Registration Statement regarding relevant indemnification provisions described above and elsewhere herein: (1) the Amended and Restated Certificate of Incorporation, filed as Exhibit 3.1B to Registrant's Amendment No. 2 to Registration Statement on Form S-1 filed with the Securities and Exchange

Commission on July 6, 1999; (2) the Registrant's Bylaws filed as Exhibit 3.1 to Registrant's Quarterly Report on Form 10-Q for the quarter ended March 31, 2001, and (3) the form of Indemnification Agreement entered into by the Registrant with each of its directors and executive officers filed as Exhibit 10.1 to Registrant's Registration Statement on Form S-1 filed with the Securities and Exchange Commission on May 4, 1999, each incorporated by reference into this Registration Statement.

ITEM 16. EXHIBITS

Exhibit No.	Description of Document
1.1	Underwriting Agreement (to be filed by amendment)
5.1	Opinion of Paul, Hastings, Janofsky & Walker LLP (to be filed by amendment)
23.1	Consent of Paul, Hastings, Janofsky & Walker LLP (to be filed by amendment))
23.2	Consent of Arthur Andersen LLP (filed herewith)
24.1	Power of Attorney (included with signature page)

ITEM 17. UNDERTAKINGS

The undersigned Registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the Registrant's annual report pursuant to section 13(a) or section 15(d) of the Securities Exchange Act of 1934 (and, when applicable, each filing of an employee benefit plan's annual report pursuant to section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers, and controlling persons of the Registrant pursuant to the provisions described in Item 15, or otherwise, the Registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act of 1933, and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer or controlling person of the Registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act of 1933 and will be governed by the final adjudication of such issue.

The undersigned Registrant undertakes that: (1) for purpose of determining

any liability under the Securities Act of 1933, the information omitted from the form of prospectus filed as part of the registration statement in reliance upon Rule 430A and contained in a form of prospectus filed by the Registrant pursuant to Rule 424(b) (1) or (4) or 497(h) under the Securities Act of 1933 shall be deemed to be part of the registration statement as of the time it was declared effective; and (2) for the purpose of determining any liability under the Securities Act of 1933, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized in the City of Novato, State of California, this 9th day of November, 2001.

BIOMARIN PHARMACEUTICAL INC.

By: /s/ FREDRIC D. PRICE

Fredric D. Price
Chairman, Chief Executive Officer and Director (Principal Executive Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Fredric D. Price and Raymond W. Anderson as such persons' true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for such person and in such person's name, place and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments) to this Registration Statement, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission and any other regulatory authority, granting unto said attorneys-in-fact and agents, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as such person might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or such persons' substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement on Form S-3 has been signed by the following persons in the capacities and on the dates indicated:

SIGNATURE	TITLE	DATE
/s/ FREDRIC D. PRICE Fredric D. Price	Chairman, Chief Executive Officer and Director	November 9,

	(Principal Executive Officer)	
/s/ RAYMOND W. ANDERSON Raymond W. Anderson	Chief Financial Officer, Chief Operating Officer, Secretary, and Vice President Finance and Administration (Principal Financial and Accounting Officer)	November 9,
/s/ GRANT W. DENISON, JR Grant W. Denison, Jr.	Director	November 9,

SIGNATURE	TITLE	DATE
/s/ PHYLLIS I. GARDNER, M.D. Phyllis I. Gardner, M.D.	Director	November 9,
/s/ ERICH SAGER Erich Sager	Director	November 9,
/s/ GWYNN R. WILLIAMS Gwynn R. Williams	Director	November 9,

EXHIBIT INDEX

Exhibit No.	Description of Document
1.1	Underwriting Agreement (to be filed by amendment)
5.1	Opinion of Paul, Hastings, Janofsky & Walker LLP (to be filed by amendment)
23.1	Consent of Paul, Hastings, Janofsky & Walker LLP (to be filed by amendment)
23.2	Consent of Arthur Andersen LLP (filed herewith)
24.1	Power of Attorney (included with signature page)