Neuralstem, Inc. Form 424B5 November 22, 2010

PROSPECTUS SUPPLEMENT (To Prospectus dated October 14, 2010)

Filed pursuant to Rule 424(b)(5) Registration No. 333-169847

Up to \$20,000,000 Common Stock

On November 22, 2010, we entered into a sales agreement with Stifel, Nicolaus & Company, Incorporated ("Sales Agent") relating to the offering of our common stock, par value \$0.01 per share, made by this prospectus supplement and the accompanying prospectus.

In accordance with the terms of the sales agreement, we may offer and sell up to \$20,000,000 of our common stock from time to time through the Sales Agent, acting as our sales agent.

Subject to the terms and conditions set forth in the sales agreement, we agree to issue and sell exclusively through the Sales Agent acting as sales agent or directly to the Sales Agent acting as principal from time to time, and the Sales Agent agrees to use its commercially reasonable efforts to sell as sales agent for us, the shares of common stock. Sales of the shares, if any, through the Sales Agent acting as sales agent or directly to the Sales Agent acting as principal will be made by means of ordinary brokers' transactions on the NYSE AMEX, or otherwise at market prices prevailing at the time of sale, at prices related to prevailing market prices. The Sales Agent is entitled to compensation not to exceed 3.5% of the gross sales price per share for any shares sold by the Sales Agent as our sales agent. The offering of common stock pursuant to the sales agreement will terminate upon the earlier of (i) the sale of all the shares of our common stock subject to the sales agreement, and (ii) the termination of the sales agreement by the Sales Agent or us.

Our common stock is listed on the NYSE AMEX under the symbol "CUR." The closing price of our common stock on the NYSE AMEX on November 19, 2010, was \$2.16 per share.

Investing in our common stock involves various risks. See "Risk Factors" beginning on page S-5 of this prospectus supplement and on page 3 of the accompanying prospectus and the risks disclosed in our periodic reports incorporated by reference in this prospectus supplement and the accompanying prospectus.

NEITHER THE SECURITIES AND EXCHANGE COMMISSION NOR ANY STATE SECURITIES COMMISSION HAS APPROVED OR DISAPPROVED OF THESE SECURITIES OR PASSED UPON THE ADEQUACY OR ACCURACY OF THIS PROSPECTUS SUPPLEMENT OR THE ACCOMPANYING PROSPECTUS. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

Stifel Nicolaus Weisel

The date of this prospectus supplement is November 22, 2010.

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In making your investment decision, you should rely only on the information contained or incorporated by reference in this prospectus supplement and the accompanying prospectus and any relevant free writing prospectus. We have not, and neither has the Sales Agent, authorized anyone to provide you with any other information. If you receive any information not authorized by us, you should not rely on it. We are not, and the Sales Agent is not, making an offer to sell the common stock in any jurisdiction where the offer or sale is not permitted. You should not assume that the information contained or incorporated by reference in this prospectus supplement or the accompanying prospectus or any relevant free writing prospectus is accurate as of any date other than its respective date.

PROSPECTUS SUMMARY

We are providing information to you about this offering in two parts. The first part is this prospectus supplement, which provides the specific details regarding the offering. The second part is the base prospectus dated October 14, 2010, included in the registration statement on Form S-3 (No. 333-169847) which we are supplementing with the information contained in this supplement. Generally, when we refer to this "prospectus," we are referring to both documents combined as well as any documents incorporated herein by reference. Some of the information in the base prospectus may not apply to this offering. If information in this prospectus supplement is inconsistent with the base prospectus, you should rely on this prospectus supplement.

You should also read and consider the information in the documents that we have referred you to in "Where You Can Find More Information" on page S-7 of this prospectus supplement and the information described under "Incorporation of Certain Documents by Reference" on page S-7 of this prospectus supplement before investing in our securities. The information incorporated by reference is considered to be part of this prospectus supplement, and information that we file later with the Securities and Exchange Commission, or SEC, will automatically update and supersede this information.

References to, "we," "us," "our," "Neuralstem," the "Company," and similar terms refer to Neuralstem, Inc., a Delaware corporation, unless the context otherwise requires.

NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act. Any statements about our expectations, beliefs, plans, objectives, assumptions or future events or performance are not historical facts and may be forward-looking. These forward-looking statements include, but are not limited to, statements about:

- the success of our research and development activities, the development of a viable commercial product, and the speed with which regulatory authorizations and product launches may be achieved;
- whether or not a market for our product develops, and, if a market develops, the rate at which it develops;
- · our ability to successfully sell or license our products if a market develops;
- our ability to attract and retain qualified personnel to implement our business plan and corporate growth strategies;
- · our ability to develop sales, marketing, and distribution capabilities;
- our ability to obtain reimbursement from third party payers for our proposed products if they are developed;
- · the accuracy of our estimates and projections;
- · our ability to secure additional financing to fund our short-term and long-term financial needs;
- · changes in our business plan and corporate strategies; and

other risks and uncertainties discussed in greater detail in the section captioned "Risk Factors."

Each forward-looking statement should be read in context with, and in understanding of, the various other disclosures concerning our company and our business made elsewhere in this prospectus as well as our public filings with the SEC. You should not place undue reliance on any forward-looking statement as a prediction of actual results or developments. We are not obligated to update or revise any forward-looking statements contained in this prospectus or any other filing to reflect new events or circumstances unless and to the extent required by applicable law.

OUR BUSINESS

This summary highlights selected information appearing elsewhere or incorporated by reference in this prospectus and may not contain all of the information that is important to you. This summary is not complete and does not contain all of the information that you should consider before investing in our securities. To fully understand this offering and its consequences to you, you should read this entire prospectus supplement and the accompanying base prospectus carefully, including the information referred to under the heading "Risk Factors" in this prospectus supplement beginning on page S-5, and the financial statements and other information incorporated by reference in this prospectus supplement and the accompanying base prospectus when making an investment decision.

Overview

We are focused on the development and commercialization of treatments based on transplanting human neural stem cells and small molecule compounds.

We have developed and maintain a portfolio of patents and patent applications that form the proprietary base for our research and development efforts in the area of neural stem cell research. We own or exclusively license fourteen (14) issued patents and twenty-two (22) patent pending applications in the field of regenerative medicine and related technologies. We believe our technology base, in combination with our know-how, and collaborative projects with major research institutions, provide a competitive advantage and will facilitate the development and commercialization of products for use in the treatment of a wide array of neurodegenerative conditions and in regenerative repair of acute disease.

Regenerative medicine is a young and emerging field. Regenerative medicine is the process of creating living, functional tissues to repair or replace tissue or organ function lost due to age, disease, damage, or congenital defects. There can be no assurances that our intellectual property portfolio will ultimately produce viable commercialized products and processes. Even if we are able to produce a commercially viable product, there are strong competitors in this field and our products may not be able to successfully compete against them.

All of our research efforts to date are at the pre-clinical or clinical stage of development. We are focused on leveraging our key assets, including our intellectual property, our scientific team and our facilities, to advance our technologies. In addition, we are pursuing strategic collaborations with members of academia.

Clinical Trials

On December 18, 2008 we filed our first Investigational New Drug Application ("IND") with the U.S. Food and Drug Administration ("FDA") to begin a clinical trial to treat Amyotrophic Lateral Sclerosis ("ALS" or "Lou Gehrig's disease"). On September 21, 2009, the FDA approved our IND. The first patient in our study was dosed on January 21, 2010 at Emory University in Atlanta Georgia. In May of 2010, we announced that, after reviewing the safety data from the first cohort of three patients, the Safety Monitoring Board had approved moving to the next cohort and transplanting the fourth patient. The first cohort of patients received five injections of the Company's spinal cord stem cells on one side of the spinal cord. The second cohort of three patients will receive ten injections, five on each side of the cord. The trial will ultimately consist of up to 18 ALS patients, who will be examined at regular intervals post-surgery, with final review of the data to come six months after the last patient is treated. To date, we have treated 7 patients. It is still too early in the trials to make any determination as to its level of success, if any.

On August 22, 2010, we filed our second IND with the FDA in connection with our proposed Phase I clinical trials for chronic spinal cord injury. In October of 2010, we were notified that our IND for spinal cord injury had been placed on clinical hold. At the time, the FDA provided us with specific comments, questions and recommendations for modifications to our trial protocol as contained in our IND. We anticipate the study, if approved and commenced, will

be a multi-site study in the U.S.

Technology

Stem Cells

Our technology enables the isolation and large-scale expansion of human neural stem cells from all areas of the developing human brain and spinal cord, thus enabling the generation of physiologically relevant human neurons of all types. Our two issued core patents entitled: (i) Isolation, Propagation, and Directed Differentiation of Stem Cells from Embryonic and Adult Central Nervous System of Mammals; and (ii) In Vitro Generation of Differentiated Neurons from Cultures of Mammalian Multipotential CNS Stem Cell contain claims which cover the process of deriving the cells as well as the cells created from this process.

What differentiates our stem cell technology from others is that our patented processes do not require us to direct our cells towards a certain fate by adding specific growth factors. Our cells actually "become" the type of cell they are fated to be. This process and the resulting cells comprise a technology platform that allows for the efficient isolation and production, in commercially reasonable quantities, of neural stem cells from the human brain and spinal cord.

To date we have focused our efforts on applications involving spinal cord stem cells. We believe we have established "proof of principle" for two important spinal cord applications: ALS, or Lou Gehrig's disease, and Ischemic Spastic Paraplegia (a painful form of spasticity that may arise as a complication of surgery to repair aortic aneurysms). Of these applications, we have commenced Phase I trials with regard to ALS.

We intend to treat both chronic and acute spinal cord injury with the same spinal cord stem cells, utilizing the same injection devices we are using for ALS. The treatment for spinal cord injury will, however, likely only involve a few injections as opposed to the fifteen injection dosage that is ultimately planned for the ALS trial. We, therefore, add to our knowledge about the surgical route of entry for both the ALS patients and the spinal cord injury patients with each patient we treat in the ALS trial.

Small-molecule Compounds

We have performed tests on cultured neural stem cells as well as in animal models in order to validate the performance of small molecule compounds for hippocampal neurogenesis. As a result of those tests, we feel that our small molecule compound may have an application with regard to the treatment of depression. We expect to file an IND to commence human safety trials of our lead small molecule compound to treat major depression in early 2011. In anticipation of filing the IND, we have contracted for a production run of our compound using Good Manufacturing Practice ("GMP") methods which will be large enough to complete safety testing and Phase I clinical trials.

In July of 2009, the U.S. Patent and Trademark Office issued the patent covered by patent application 12/049,922, entitled "Use of Fused Nicotinamides to Promote Neurogenesis," which claims four chemical entities and any pharmaceutical composition included in them.

Research

We have devoted substantial resources to our research programs in order to isolate and develop a series of neural stem cell banks that we believe can serve as a basis for our therapeutic products. Our efforts to date have been directed at methods to identify, isolate and culture large varieties of stem cells of the human nervous system, and to develop therapies utilizing these stem cells. This research is conducted internally, through the use of third party laboratories and consulting companies under our direct supervision, and through collaboration with academic institutes.

Operating Strategy

We employ an outsourcing strategy where we outsource all of our Good Laboratory Practices, preclinical development activities and GMP manufacturing and clinical development activities to contract research organizations and contract manufacturing organizations as well as all non-critical corporate functions. Manufacturing is also outsourced to organizations with approved facilities and manufacturing practices. This outsource model allows us to better manage cash on hand and eliminates non-vital expenditures. It also allows for us to operate with relatively fewer employees and lower fixed costs than that required by our competitors.

Employees

As of October 31, 2010, we had 8 full-time employees and 11 full time independent contractors. Of these employees, 3 work on research and development and 5 in administration. We also use the services of numerous outside consultants in business and scientific matters.

Our Corporate Information

We were incorporated in Delaware. Our principal executive offices are located at 9700 Great Seneca Highway, Rockville, Maryland 20850, and our telephone number is (301) 366-4841. Our website is located at www.neuralstem.com. We have not incorporated by reference into this prospectus supplement or the accompanying base prospectus the information in, or that can be accessed through, our website, and you should not consider it to be a part of this prospectus supplement or the accompanying prospectus.

THE OFFERING

Issuer	Neuralstem, Inc., a Delaware corporation
Common Stock Offered	Up to \$20,000,000 of our common stock, par value \$0.01 per share.
Use of Proceeds	We intend to use the net proceeds from the sale of the securities covered by this prospectus for general corporate purposes, which may include working capital, capital expenditures, research and development expenditures, clinical trial expenditures, acquisitions of new technologies or businesses, and investments. See "Use of Proceeds."
Risk Factors	Before deciding to invest in shares of our common stock, you should read carefully the risks set forth under the caption "Risk Factors" beginning on page S-5 of this prospectus supplement and on page 3 of the accompanying prospectus, and the risks described in our periodic reports incorporated by reference in this prospectus supplement and the accompanying prospectus.
NYSE AMEX	CUR

RISK FACTORS

Your investment in our shares of common stock is subject to certain risks. This prospectus supplement does not describe all of those risks. You should consult your own financial and legal advisors about the risks entailed by an investment in our shares of common stock and the suitability of your investment in our shares of common stock in light of your particular circumstances. For a discussion of some of the factors you should carefully consider before deciding to purchase any of our shares of common stock that may be offered, please read "Risk Factors" in the documents incorporated by reference herein and in the base prospectus, as well as those risk factors included below. Additional risks and uncertainties not currently known to us or that we currently deem immaterial may also adversely affect our business and operations. If any of the matters described in the risk factors were to occur, our business, financial condition, results of operations, cash flows or prospects could be materially adversely affected. In such case, you could lose all or a portion of your investment.

Risks Related to the Offering

You may experience immediate dilution in the book value per share of the common stock you purchase.

Because the price per share of our common stock being offered from time to time may be substantially higher than the book value per share of our common stock at the time of the sale, you may suffer substantial dilution in the net tangible book value of the common stock you purchase in this offering.

Our management will have broad discretion over the use of proceeds from this offering and may not use the proceeds effectively.

Our management will have broad discretion as to the application of the net proceeds from this offering and could spend the proceeds in a variety of ways that may ultimately fail to improve our operating results or enhance the value

of our common stock. Our failure to apply these funds effectively could have a negative effect on our business and cause the price of our common stock to decline.

Our publicly filed reports are subject to review by the SEC, and any significant changes or amendments required as a result of any such review may result in material liability to us and may have a material adverse impact on the trading price of our common stock.

The reports of publicly traded companies are subject to review by the SEC from time to time for the purpose of assisting companies in complying with applicable disclosure requirements, and the SEC is required to undertake a comprehensive review of a company's reports at least once every three years under the Sarbanes-Oxley Act of 2002. SEC reviews may be initiated at any time. We could be required to modify, amend or reformulate information contained in prior filings as a result of an SEC review. Any modification, amendment or reformulation of information contained in such reports could be significant and result in material liability to us and have a material adverse impact on the trading price of our common stock.

Additional Risks Related to our Business, Industry and an Investment in our Common Stock

For a discussion of additional risks associated with our business, our industry and an investment in our common stock, see the section entitled "Risk Factors" in our most recent Annual Report on Form 10-K (and as amended), as filed with the SEC on March 31, 2010 and any other subsequently filed document that is also incorporated or deemed to be incorporated by reference in this prospectus supplement, including our Quarterly Reports on Form 10-Q.

USE OF PROCEEDS

We intend to use the net proceeds from the sale of the securities covered by this prospectus for general corporate purposes, which may include working capital, capital expenditures, research and development expenditures, clinical trial expenditures, acquisitions of new technologies or businesses, and investments. Pending use for these purposes, we may invest proceeds from the sale of the securities in short-term marketable securities. The precise amount and timing of sales of any common stock will be dependent on market conditions and the availability and cost of other funds to us.

DILUTION

Our net tangible book value as of September 30, 2010 was \$8,175,183, or \$0.18 per share of common stock, based on 46,182,178 shares of our common stock outstanding. Net tangible book value per share is calculated by subtracting our total liabilities from our total tangible assets, which is total assets less intangible assets, and dividing this amount by the number of shares of common stock outstanding. After giving effect to the sale of our common stock in the aggregate amount of \$20 million at an assumed offering price of \$2.16 per share, the last reported sale price of our common stock on the NYSE AMEX on November 19, 2010, and after deducting estimated offering commissions and expenses payable by us, our net tangible book value as of September 30, 2010 would have been \$27,425,183, or \$0.49 per share of common stock. This represents an immediate increase in the net tangible book value of \$0.31 per share to our existing stockholders and an immediate and substantial dilution in net tangible book value of \$1.67 per share to new investors. The following table illustrates this per share dilution:

Assumed offering price per share		\$ 2.16
Net tangible book value per share as of September 30, 2010	\$ 0.18	
Increase per share attributable to new investors	\$ 0.31	
As-adjusted net tangible book value per share after this offering		\$ 0.49
Net dilution per share to new investors		\$ 1.67

The table above assumes for illustrative purposes that an aggregate of 9,259,260 shares of our common stock are sold at a price of \$2.16 per share, the last reported sale price of our common stock on The NYSE AMEX on November 19, 2010, for aggregate gross proceeds of \$20 million. The shares sold in this offering, if any, will be sold from time to time at various prices. An increase of \$0.40 per share in the price at which the shares are sold from the assumed offering price of \$2.16 per share shown in the table above, assuming all of our common stock in the aggregate amount of \$20 million is sold at that price, would increase our adjusted net tangible book value per share after the offering to \$0.51 per share and would increase the dilution in net tangible book value per share to new investors in this offering to \$2.05 per share, after deducting commissions and estimated aggregate offering expenses payable by us. A decrease of \$0.40 per share in the price at which the shares are sold from the assumed offering price of \$2.16 per share shown in the table above, assuming all of our common stock in the aggregate amount of \$20 million is sold at that price, would

decrease our adjusted net tangible book value per share after the offering to \$0.47 per share and would decrease the dilution in net tangible book value per share to new investors in this offering to \$1.29 per share, after deducting commissions and estimated aggregate offering expenses payable by us. This information is supplied for illustrative purposes only.

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The calculations above are based upon 46,182,178 shares of common stock outstanding and exclude:

- Options representing the right to purchase a total of 9,223,617 shares of common stock at a weighted average exercise price of \$2.50 per share;
- 7,700,908 shares of common stock which were reserved for future equity awards that may be granted in the future under our equity incentive plans;
- Warrants and other convertible securities representing the right to purchase 16,219,128 shares of common stock at a weighted average exercise price of \$2.40.

PLAN OF DISTRIBUTION

We have entered into a sales agreement with Stifel, Nicolaus & Company, Incorporated to act as our sales agent. We may issue and sell over a period of time and from time to time up to \$20,000,000 of our common stock through the Sales Agent. Sales of the shares to which this prospectus supplement and the accompanying prospectus relate, if any, will be made by means of ordinary brokers' transactions on the NYSE AMEX or otherwise at market prices prevailing at the time of sale or as otherwise agreed between us and the Sales Agent. The Sales Agent will not engage in any transactions that stabilize our common stock.

The Sales Agent will offer the shares of our common stock subject to the terms and conditions of the sales agreement on a daily basis or as otherwise agreed upon by us and the Sales Agent. We will designate the maximum amount of shares of common stock to be sold through our Sales Agent on a daily basis. Subject to the terms and conditions of the sales agreement, the Sales Agent will use its commercially reasonable efforts to sell on our behalf all of the shares of common stock so designated or determined. We may instruct the Sales Agent not to sell shares of common stock if the sales cannot be effected at or above the price designated by us in any such instruction. We or the Sales Agent may suspend the offering of shares of common stock being made under the sales agreement upon proper notice to the other party.

For its service as sales agent in connection with the sale of shares of our common stock that may be offered hereby, we will pay a fee not to exceed 3.5% of the gross sales price per share for any shares sold by the Sales Agent acting as our sales agent. The remaining sales proceeds, after deducting any expenses payable by us and any transaction fees imposed by any governmental, regulatory, or self-regulatory organization in connection with the sales, will equal our net proceeds from the sale of such shares. We estimate that the total expenses of the offering payable by us, excluding commissions payable to the Sales Agent under the sales agreement, will be approximately \$150,000.

The Sales Agent will provide written confirmation to us following the close of trading on the NYSE AMEX each day in which shares of common stock are sold by the Sales Agent for us under the sales agreement. Each confirmation will include the number of shares sold on that day, the gross sales price per share, the compensation payable by us to the Sales Agent and the proceeds to us net of such compensation.

Settlement for sales of common stock will occur, unless the parties agree otherwise, on the third business day (that is also a trading day) following the date on which any sales were made in return for payment of the proceeds to us net of compensation paid by us to the Sales Agent. There is no arrangement for funds to be received in an escrow, trust or similar arrangement.

Under the terms of the sales agreement, we also may sell shares to Stifel, Nicolaus & Company, Incorporated, as principal, at a price agreed upon at the time of sale. If we sell shares to Stifel, Nicolaus & Company, Incorporated, as principal, we will enter into a separate terms agreement with the Sales Agent setting forth the terms of such transaction, and we will describe the agreement in a separate prospectus supplement or pricing supplement.

In connection with the sale of common stock through the Sales Agent on our behalf, the Sales Agent may be deemed to be an "underwriter" within the meaning of the Securities Act, and the compensation paid to the Sales Agent may be deemed to be underwriting commissions or discounts. We have agreed in the sales agreement to provide indemnification and contribution to the Sales Agent against certain civil liabilities, including liabilities under the Securities Act.

In the ordinary course of its business, the Sales Agent and/or their respective affiliates have in the past performed, and may continue to perform, investment banking, broker dealer, lending, financial advisory or other services for us for which they have received, or may receive, separate fees.

The offering of common stock pursuant to the sales agreement will terminate upon the earlier of (1) the sale of \$20,000,000 of our common stock and (2) the termination of the sales agreement, pursuant to its terms, by the Sales Agent or us.

LEGAL MATTERS INTERESTS OF NAMED EXPERTS AND COUNSEL

The validity of the issuance of the securities offered hereby will be passed upon for us by The Silvestre Law Group, P.C. Westlake Village, California. The Silvestre Law Group, P.C. or its affiliates or principals own 54,000 shares of common stock. Certain legal matters in connection with the offering of the common stock will be passed upon for Stifel Nicolaus Weisel by LeClairRyan, New York, New York.

EXPERTS

The financial statements incorporated in this prospectus by reference from the Company's Annual Report on Form 10-K have been audited by Stegman & Company, an independent registered public accounting firm, as stated in their report, which is incorporated herein by reference. Such financial statements have been so incorporated in reliance upon the report of such firm given upon their authority as experts in accounting and auditing. Stegman & Company has no interest in the shares being registered in this filing.

WHERE YOU CAN FIND MORE INFORMATION

We are a public company and file annual, quarterly and current reports, proxy statements and other information with the SEC. You may read and copy any document we file at the SEC's Public Reference Room at 100 F Street, N.E., Room 1580, Washington, D.C. 20549. You can request copies of these documents by writing to the SEC and paying a fee for the copying cost. Please call the SEC at 1-800-SEC-0330 for more information about the operation of the public reference room. Our SEC filings are also available to the public at the SEC's web site at http://www.sec.gov.

In addition, we maintain a web site that contains information regarding our company, including copies of reports, proxy statements and other information we file with the SEC. The address of our web site is www.neuralstem.com. Except for the documents specifically incorporated by reference into this prospectus, information contained on our website or that can be accessed through our website does not constitute a part of this prospectus. We have included our website address only as an inactive textual reference and do not intend it to be an active link to our website.

This prospectus supplement and the accompanying prospectus are part of a registration statement on Form S-3 that we filed with the SEC registering the securities that may be offered and sold hereunder. The registration statement, including exhibits thereto, contains additional relevant information about us and these securities that, as permitted by the rules and regulations of the SEC, we have not included in this prospectus supplement or the accompanying prospectus. A copy of the registration statement can be obtained at the address set forth above. You should read the registration statement for further information about us and these securities.

INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

We incorporate information into this prospectus by reference, which means that we disclose important information to you by referring you to another document filed separately with the SEC. The information incorporated by reference is deemed to be part of this prospectus, except for any such information superseded by information contained in later-filed documents or directly in this prospectus. This prospectus incorporates by reference the documents set forth below that we have previously filed with the SEC (excluding those portions of any Form 8-K that are not deemed "filed" pursuant to the General Instructions of Form 8-K). These documents contain important information about us and our financial condition.

We incorporate by reference into this prospectus supplement the information contained in the documents listed below, which is considered to be a part of this prospectus supplement:

- Our Annual Report on Form 10-K and 10-K/A filed with the Commission on March 31, 2010 and as amended on October 5, 2010, for the year ended December 31, 2009;
- Our Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2010, filed on May 17, 2010;
- · Our Quarterly Report on Form 10-Q for the fiscal quarter ended June 30, 2010, filed on August 16, 2010;
- · Our Quarterly Report on Form 10-Q for the fiscal quarter ended September 30, 2010, filed on November 15, 2010;

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- Our Current Reports on Form 8-K filed on June 11, 2010, June 29, 2010, July 14, 2010 (excluding any information furnished in such reports under Item 2.02, Item 7.01 or Item 9.01);
- Our Definitive Proxy Statement on Schedule 14A for our 2010 Annual Meeting of Stockholders, filed with the SEC on March 26, 2010; and
- The description of our common stock contained in our registration statement on Form 8-A (Registration No. 001-33672), as amended, filed with the Commission on August 23, 2007.

All reports and other documents we subsequently file pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act prior to the termination of this offering, including all such documents we may file with the SEC after the date of the initial registration statement and prior to the effectiveness of the registration statement, but excluding any information furnished to, rather than filed with, the SEC, will also be incorporated by reference into this prospectus and deemed to be part of this prospectus from the date of the filing of such reports and documents.

We will provide without charge to each person, including any beneficial owner, to whom this prospectus is delivered, upon written or oral request, a copy of any or all documents that are incorporated by reference into this prospectus, but not delivered with the prospectus, other than exhibits to such documents unless such exhibits are specifically incorporated by reference into the documents that this prospectus incorporates. You should direct written requests to: NEURALSTEM, INC, 9700 Great Seneca Highway, Rockville, Maryland 20850 Attn: Chief Financial Officer, Tel: (301) 366-4841.

Up to \$20,000,000 Common Stock
PROSPECTUS November 22, 2010
November 22, 2010

Stifel Nicolaus Weisel

Neither we nor the underwriter has authorized anyone to provide information different from that contained in this prospectus. When you make a decision about whether to invest in our common stock, you should not rely upon any information other than the information in this prospectus. Neither the delivery of this prospectus nor the sale of our common stock means that information contained in this prospectus is correct after the date of this prospectus. This prospectus is not an offer to sell or solicitation of an offer to buy these shares of common stock in any circumstances under which the offer or solicitation is unlawful.

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PROSPECTUS

NEURALSTEM, INC.

\$50,000,000

Common stock, Preferred stock, Warrants Units

We may from time to time in one or more offerings, offer and sell one or any combination of the securities we describe in this prospectus, either individually or as units comprised of one or more of the offered securities. This prospectus may not be used to sell securities unless accompanied by a prospectus supplement, which will describe the method and the terms of the offering. We will provide you with specific amount, price and terms of the applicable offered securities in one or more supplements to this prospectus. You should read this prospectus and any supplement carefully before you purchase any of our securities.

These securities may be offered and sold in the same offering or in separate offerings; to or through underwriters, dealers, and agents; or directly to purchasers. The names of any underwriters, dealers, or agents involved in the sale of our securities, their compensation and any over-allotment options held by them will be described in the applicable prospectus supplement, see "Plan of Distribution."

Our common stock is listed on the NYSE AMEX under the symbol "CUR." On October 4, 2010, the closing price of our common stock on the NYSE AMEX was \$2.31 per share. Our principal executive offices are located at 9700 Great Seneca Highway, Rockville, MD, and our telephone number at that address is 301-366-4841.

Investing in our securities involves risk. Please carefully read the information under "Risk Factors" beginning on page 3 for information you should consider before investing in our securities.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

This prospectus is dated October 14, 2010

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ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement on Form S-3 that we filed with the Securities and Exchange Commission, or SEC, utilizing a "shelf" registration process. Under this shelf registration statement, we may, from time to time, sell any combination of the securities referred to herein in one or more offerings for total gross proceeds of up to \$50,000,000. This prospectus provides you with a general description of the securities we may offer.

Each time we offer a type or series of securities under this prospectus, we will provide a prospectus supplement that will contain more specific information about the terms of the offered securities. We also may authorize one or more free writing prospectuses to be provided to you that may contain material information relating to these offerings. This prospectus, together with applicable prospectus supplements and any related free writing prospectuses, includes all material information relating to these offerings. We also may add, update or change, in the prospectus supplement and in any related free writing prospectus that we may authorize to be provided to you, any of the information contained in this prospectus or in the documents that we have incorporated by reference into this prospectus. We urge you to read carefully this prospectus, any applicable prospectus supplement and any related free writing prospectus, together with the information incorporated herein by reference as described under the section entitled "Where You Can Find Additional Information," in this prospectus before buying any of the securities being offered. THIS PROSPECTUS MAY NOT BE USED TO CONSUMMATE A SALE OF SECURITIES UNLESS IT IS ACCOMPANIED BY A PROSPECTUS SUPPLEMENT.

You should rely only on the information that we have provided or incorporated by reference in this prospectus, any applicable prospectus supplement and any related free writing prospectus that we may authorize to be provided to you. We have not authorized any other person to provide you with different or additional information. No dealer, salesperson or other person is authorized to give any information or to represent anything not contained in this prospectus, any applicable prospectus supplement or any related free writing prospectus that we may authorize to be provided to you. You must not rely on any unauthorized information or representation. This prospectus, any applicable supplement to this prospectus or any related free writing prospectus do not constitute an offer to sell or the solicitation of an offer to buy any securities other than the registered securities to which they relate, nor do this prospectus, any applicable supplement to this prospectus or any related free writing prospectus constitute an offer to sell or the solicitation of an offer to buy securities in any jurisdiction to any person to whom it is unlawful to make such offer or solicitation in such jurisdiction.

You should assume that the information appearing in this prospectus, any applicable prospectus supplement or any related free writing prospectus is accurate only as of the date on the front of the document and that any information we have incorporated by reference is accurate only as of the date of the document incorporated by reference, regardless of the time of delivery of this prospectus, any applicable prospectus supplement or any related free writing prospectus, or any sale of a security. Our business, financial condition, results of operations and prospectus may have changed since those dates.

This prospectus contains and incorporates by reference market data, industry statistics and other data that have been obtained from, or compiled from, information made available by third parties. We have not independently verified their data. This prospectus and the information incorporated herein by reference includes trademarks, service marks and trade names owned by us or other companies. All trademarks, service marks and trade names included or incorporated by reference into this prospectus, any applicable prospectus supplement or any related free writing prospectus are the property of their respective owners.

This prospectus contains summaries of certain provisions contained in some of the documents described herein, but reference is made to the actual documents for complete information. All of the summaries are qualified in their entirety by the actual documents. Copies of some of the documents referred to herein have been filed, will be filed, or

will be incorporated by reference as exhibits to the registration statement of which this prospectus is a part, and you may obtain copies of those documents as described below under the section entitled "Where You Can Find Additional Information."

You should read this entire prospectus carefully, including the risks of investing discussed under "Risk Factors" beginning on page 3, the information to which we refer you and the information incorporated into this prospectus by reference, for a complete understanding of our business and this offering. References in this prospectus to "our company," "we," "our," "Neuralstem" and "us" refer to Neuralstem, Inc.

THE COMPANY

Overview

We are focused on the development and commercialization of treatments based on transplanting human neural stem cells and small molecule compounds.

We have developed and maintain a portfolio of patents and patent applications that form the proprietary base for our research and development efforts in the area of neural stem cell research. We own or exclusively license fourteen (14) issued patents and twenty-two (22) patent pending applications in the field of regenerative medicine and related technologies. We believe our technology base, in combination with our know-how, and collaborative projects with major research institutions, provide a competitive advantage and will facilitate the development and commercialization of products for use in the treatment of a wide array of neurodegenerative conditions and in regenerative repair of acute disease.

Regenerative medicine is a young and emerging field. Regenerative medicine is the process of creating living, functional tissues to repair or replace tissue or organ function lost due to age, disease, damage, or congenital defects. There can be no assurances that our intellectual property portfolio will ultimately produce viable commercialized products and processes. Even if we are able to produce a commercially viable product, there are strong competitors in this field and our products may not be able to successfully compete against them.

All of our research efforts to date are at the pre-clinical or clinical stage of development. We are focused on leveraging our key assets, including our intellectual property, our scientific team and our facilities, to advance our technologies. In addition, we are pursuing strategic collaborations with members of academia.

Clinical Trials

On December 18, 2008 we filed our first Investigational New Drug Application ("IND") with the U.S. Food and Drug Administration ("FDA") to begin a clinical trial to treat Amyotrophic Lateral Sclerosis ("ALS" or "Lou Gehrig's disease"). On September 21, 2009, the FDA approved our IND. The first patient in our study was dosed on January 21, 2010 at Emory University in Atlanta Georgia. In May of 2010, we announced that, after reviewing the safety data from the first cohort of three patients, the Safety Monitoring Board has approved moving to the next cohort and transplantation of the fourth patient. The first cohort of patients received five injections of the Company's spinal cord stem cells on one side of the spinal cord. The second cohort of three patients will receive ten injections, five on each side of the cord. The trial will ultimately consist of up to 18 ALS patients, who will be examined at regular intervals post-surgery, with final review of the data to come six months after the last patient is treated. To date, we have treated 6 patients. It is still too early in the trials to make any determination as to its level of success, if any.

On August 22, 2010, we filed our second IND with the FDA. The IND is being filed in connection with our proposed Phase I clinical trials for Chronic Spinal Cord injury. We anticipate the study will be a multi-site study in the U.S.

Technology

Stem Cells

Our technology enables the isolation and large-scale expansion of human neural stem cells from all areas of the developing human brain and spinal cord, thus enabling the generation of physiologically relevant human neurons of all types. Our two issued core patents entitled: (i) Isolation, Propagation, and Directed Differentiation of Stem Cells from Embryonic and Adult Central Nervous System of Mammals; and (ii) In Vitro Generation of Differentiated Neurons from Cultures of Mammalian Multipotential CNS Stem Cell contain claims which cover the process of

deriving the cells as well as the cells created from this process.

What differentiates our stem cell technology from others is that our patented processes do not require us to direct our cells towards a certain fate by adding specific growth factors. Our cells actually "become" the type of cell they are fated to be. This process and the resulting cells comprise a technology platform that allows for the efficient isolation and production, in commercially reasonable quantities, of neural stem cells from the human brain and spinal cord.

To date we have focused our efforts on applications involving spinal cord stem cells. We believe we have established "proof of principle" for two important spinal cord applications: ALS, or Lou Gehrig's disease, and Ischemic Spastic Paraplegia (a painful form of spasticity that may arise as a complication of surgery to repair aortic aneurysms). Of these applications, we have commenced Phase I trials with regard to ALS.

We intend to treat both chronic and acute spinal cord injury with the same spinal cord stem cells, utilizing the same injection devices we are using for ALS. The treatment for spinal cord injury will, however, likely only involve a few injections as opposed to the fifteen injection dosage that is ultimately planned for the ALS trial. We, therefore, add to our knowledge about the surgical route of entry for both the ALS patients and the spinal cord injury patients with each patient we treat in the ALS trial.

Small-molecule Compounds

We have performed tests on cultured neural stem cells as well as in animal models in order to validate the performance of small molecule compounds for hippocampal neurogenesis. As a result of those tests, we feel that our small molecule compound may have an application with regard to the treatment of depression. We expect to file an IND to commence human safety trials of our lead small molecule compound to treat major depression in early 2011. In anticipation of filing the IND, we have contracted for a production run of our compound using Good Manufacturing Practice ("GMP") methods which will be large enough to complete safety testing and Phase I clinical trials.

In July of 2009, the U.S. Patent and Trademark Office ("USPTO") issued the patent covered by patent application 12/049,922, entitled "Use of Fused Nicotinamides to Promote Neurogenesis," which claims four chemical entities and any pharmaceutical composition including them.

Research

We have devoted substantial resources to our research programs in order to isolate and develop a series of neural stem cell banks that we believe can serve as a basis for our therapeutic products. Our efforts to date have been directed at methods to identify, isolate and culture large varieties of stem cells of the human nervous system, and to develop therapies utilizing these stem cells. This research is conducted internally, through the use of third party laboratories and consulting companies under our direct supervision, and through collaboration with academic institutes.

Operating Strategy

We employ an outsourcing strategy where we outsource all of our Good Laboratory Practices ("GLP") preclinical development activities and GMP manufacturing and clinical development activities to contract research organizations ("CRO") and contract manufacturing organizations ("CMO") as well as all non critical corporate functions. Manufacturing is also outsourced to organizations with approved facilities and manufacturing practices. This outsource model allows us to better manage cash on hand and eliminates non-vital expenditures. It also allows for us to operate with relatively fewer employees and lower fixed costs than that required by our competitors.

Employees

As of June 30, 2010, we had 9 full-time employees and 11 full time independent contractors. Of these employees, 4 work on research and development and 5 in administration. We also use the services of numerous outside consultants in business and scientific matters.

Corporate Information

We were incorporated in 1997 in the state of Maryland and re-incorporated in the state of Delaware in 2001. Our principal executive offices are located at 9700 Great Seneca Highway, Rockville, MD, and our telephone number at that address is 301-366-4841.

RISK FACTORS

An investment in our securities involves a high degree of risk. The prospectus supplement applicable to each offering of our securities will contain a discussion of the risks applicable to an investment in our securities. Prior to making a decision about investing in our securities, you should carefully consider the specific factors discussed under the

heading "Risk Factors" in the applicable prospectus supplement, together with all of the other information contained or incorporated by reference in the prospectus supplement or appearing or incorporated by reference in this prospectus. You should also consider the risks, uncertainties and assumptions discussed under Item 1A, "Risk Factors," in our Annual Report on Form 10-K for the fiscal year ended December 31, 2009 (as updated in our Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2010) which are incorporated herein by reference, and may be amended, supplemented or superseded from time to time by other reports we file with the SEC in the future and any prospectus supplement related to a particular offering. The risks and uncertainties we have described are not the only ones we face. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also affect our operations.

FORWARD-LOOKING STATEMENTS

This prospectus and the registration statement of which it forms a part, any prospectus supplement, any related issuer free writing prospectus and the documents incorporated by reference into these documents contain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act. Forward-looking statements deal with our current plans, intentions, beliefs and expectations and statements of future economic performance. Statements containing terms such as "believe," "do not believe," "plan," "expect," "intend," "estimate," "anticipate" and other phrases of similar mean considered to contain uncertainty and are forward-looking statements. In addition, from time to time we or our representatives have made or will make forward-looking statements orally or in writing. Furthermore, such forward-looking statements may be included in various filings that we make with the SEC, or press releases or oral statements made by or with the approval of one of our authorized executive officers. These forward-looking statements are subject to certain known and unknown risks and uncertainties, as well as assumptions that could cause actual results to differ materially from those reflected in these forward-looking statements. Factors that might cause actual results to differ include, but are not limited to, those set forth under Item 1A, "Risk Factors," and Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations," in our most recent Annual Report on Form 10-K, the corresponding sections in our most recent Quarterly Report on Form 10-Q and in our future filings made with the SEC. Readers are cautioned not to place undue reliance on any forward-looking statements contained in this prospectus, any prospectus supplement or any related issuer free writing prospectus, which reflect management's opinions only as of their respective dates. Except as required by law, we undertake no obligation to revise or publicly release the results of any revisions to any forward-looking statements. You are advised, however, to consult any additional disclosures we have made or will make in our reports to the SEC on Forms 10-K, 10-Q and 8-K, and any amendments thereto. All subsequent written and oral forward-looking statements attributable to us or persons acting on our behalf are expressly qualified in their entirety by the cautionary statements contained in this prospectus, any prospectus supplement or any related issuer free writing prospectus.

USE OF PROCEEDS

Except as otherwise provided in the applicable prospectus supplement, we intend to use the net proceeds from the sale of the securities covered by this prospectus for general corporate purposes, which may include working capital, capital expenditures, research and development expenditures, clinical trial expenditures, acquisitions of new technologies or businesses, and investments. Additional information on the use of net proceeds from the sale of securities covered by this prospectus may be set forth in the prospectus supplement relating to the specific offering.

DIVIDEND POLICY

We have never paid cash dividends on our common stock. Moreover, we do not anticipate paying periodic cash dividends on our common stock for the foreseeable future. We intend to use all available cash and liquid assets in the operation and growth of our business. Any future determination about the payment of dividends will be made at the discretion of our board of directors and will depend upon our earnings, if any, capital requirements, operating and financial conditions and on such other factors as our board of directors deems relevant.

DESCRIPTION OF SECURITIES TO BE REGISTERED

Description of the Capital Stock

As of the date of this prospectus, our authorized capital stock consists of 150,000,000 shares designated as common stock, \$0.01 par value, and 7,000,000 shares designated as preferred stock, \$0.01 par value. The only equity securities currently outstanding are shares of common stock. As of October 5, 2010, there were 46,182,178 shares of common

stock issued and outstanding.

The following is a summary of the material provisions of the common stock and preferred stock provided for in our certificate of incorporation and bylaws. For additional detail about our capital stock, please refer to our certificate of incorporation and bylaws, each as amended, copies of which are incorporated by reference into the registration statement to which this prospectus relates.

Common stock

The holders of common stock are entitled to one vote per share on all matters to be voted upon by the stockholders and there are no cumulative rights. Subject to preferences that may be applicable to any outstanding preferred stock, the holders of common stock are entitled to receive ratably any dividends that may be declared from time to time by the board of directors out of funds legally available for that purpose. However, we are not currently paying any dividends. In the event of our liquidation, dissolution or winding up, the holders of common stock are entitled to share ratably in all assets remaining after payment of liabilities, subject to prior distribution rights of preferred stock then outstanding. The common stock has no preemptive or conversion rights or other subscription rights. There are no redemption or sinking fund provisions applicable to the common stock. The outstanding shares of common stock are fully paid and non-assessable, and any shares of common stock to be issued upon an offering pursuant to this prospectus and the related prospectus supplement will be fully paid and nonassessable upon issuance.

The transfer agent and registrar for our common stock is American Stock Transfer and Trust Company. Our common stock is listed for quotation on the NYSE AMEX under the symbol "CUR."

Preferred stock

The following description of preferred stock and the description of the terms of any particular series of preferred stock that we choose to issue hereunder and that will be set forth in the related prospectus supplement are not complete. These descriptions are qualified in their entirety by reference to our certificate of incorporation and the certificate of designation relating to that series. The rights, preferences, privileges and restrictions of the preferred stock of each series will be fixed by the certificate of designation relating to that series. The prospectus supplement also will contain a description of certain U.S. federal income tax consequences relating to the purchase and ownership of the series of preferred stock that is described in the prospectus supplement.

We currently have no shares of preferred stock outstanding. Our board of directors has the authority, without further action by the stockholders, to issue up to 7,000,000 shares of preferred stock in one or more series and to fix the rights, preferences, privileges and restrictions granted to or imposed upon the preferred stock. Any or all of these rights may be greater than the rights of the common stock.

The board of directors, without stockholder approval, can issue preferred stock with voting, conversion or other rights that could negatively affect the voting power and other rights of the holders of common stock. Preferred stock could thus be issued quickly with terms calculated to delay or prevent a change in control of us or make it more difficult to remove our management. Additionally, the issuance of preferred stock may have the effect of decreasing the market price of the common stock.

The prospectus supplement for a series of preferred stock will specify:

- the price of and maximum number of shares;
 - the designation of the shares;

the annual dividend rate, if any, whether the dividend rate is fixed or variable, the date or dates on which dividends will accrue, the dividend payment dates, and whether dividends will be cumulative;

the price and the terms and conditions for redemption, if any, including redemption at our option or at the option of the holders, including the time period for redemption, and any accumulated dividends or premiums;

the liquidation preference, if any, and any accumulated dividends upon the liquidation, dissolution or winding up of our affairs;

any sinking fund or similar provision, and, if so, the terms and provisions relating to the purpose and operation of the fund;

the terms and conditions, if any, for conversion or exchange of shares of any other class or classes of our capital stock or any series of any other class or classes, or of any other series of the same class, or any other securities or assets, including the price or the rate of conversion or exchange and the method, if any, of adjustment;

the voting rights; and

any or all other preferences and relative, participating, optional or other special rights, privileges or qualifications, limitations or restrictions.

Preferred stock will be fully paid and nonassessable upon issuance.

Anti-Takeover Effects of Some Provisions of Delaware Law

Provisions of Delaware law could make the acquisition of our company through a tender offer, a proxy contest or other means more difficult and could make the removal of incumbent officers and directors more difficult. We expect these provisions to discourage coercive takeover practices and inadequate takeover bids and to encourage persons seeking to acquire control of our company to first negotiate with our board of directors. We believe that the benefits provided by our ability to negotiate with the proponent of an unfriendly or unsolicited proposal outweigh the disadvantages of discouraging these proposals. We believe the negotiation of an unfriendly or unsolicited proposal could result in an improvement of its terms.

We are subject to Section 203 of the Delaware General Corporation Law, an anti-takeover law. In general, Section 203 prohibits a publicly held Delaware corporation from engaging in a "business combination" with an "interested stockholder" for a period of three years following the date the person became an interested stockholder, unless:

Prior to the date of the transaction, the board of directors of the corporation approved either the business combination or the transaction which resulted in the stockholder becoming an interested stockholder;

The stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, excluding for purposes of determining the number of shares outstanding (a) shares owned by persons who are directors and also officers, and (b) shares owned by employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or

On or subsequent to the date of the transaction, the business combination is approved by the board and authorized at an annual or special meeting of stockholders, and not by written consent, by the affirmative vote of at least two-thirds of the outstanding voting stock that is not owned by the interested stockholder.

Generally, a "business combination" includes a merger, asset or stock sale, or other transaction resulting in a financial benefit to the interested stockholder. An "interested stockholder" is a person who, together with affiliates and associates, owns or, within three years prior to the determination of interested stockholder status, did own 15% or more of a corporation's outstanding voting securities. We expect the existence of this provision to have an anti-takeover effect with respect to transactions our board of directors does not approve in advance. We also anticipate that Section 203 may also discourage attempts that might result in a premium over the market price for the shares of common stock held by stockholders.

Anti-Takeover Effects of Provisions of Our Charter Documents

Our amended and restated bylaws provides for our board of directors to be divided into three classes serving staggered terms. Approximately one-third of the board of directors will be elected each year. The provision for a classified board could prevent a party who acquires control of a majority of the outstanding voting stock from obtaining control of the board of directors until the second annual stockholders meeting or longer, following the date the acquirer obtains the controlling stock interest. The classified board provision could discourage a potential acquirer from making a tender offer or otherwise attempting to obtain control of our company and could increase the likelihood that incumbent directors will retain their positions. Our amended and restated bylaws provides any director or the entire Board may be removed from office at any time, with or without cause, by the affirmative vote of the holders of at least a majority of the voting power of the issued and outstanding shares of capital stock of the corporation then entitled to vote in the election of directors.

Our amended and restated bylaws establish an advance notice procedure for stockholder proposals to be brought before an annual meeting of our stockholders, including proposed nominations of persons for election to the board of directors. At an annual meeting, stockholders may only consider proposals or nominations specified in the notice of meeting or brought before the meeting by or at the direction of the board of directors. Stockholders may also consider a proposal or nomination by a person who was a stockholder of record on the record date for the meeting, who is entitled to vote at the meeting and who has given to our Secretary timely written notice, in proper form, of his or her intention to bring that business before the meeting. The amended and restated bylaws do not give the board of directors the power to approve or disapprove stockholder nominations of candidates or proposals regarding other business to be conducted at a special or annual meeting of the stockholders. However, our bylaws may have the effect of precluding the conduct of business at a meeting if the proper procedures are not followed. These provisions may also discourage or deter a potential acquirer from conducting a solicitation of proxies to elect the acquirer's own slate of directors or otherwise attempting to obtain control of our company.

Our amended and restated bylaws provide that only our board of directors, the chairperson of the board or the chief executive officer (or president, in the absence of a chief executive officer) or holders of more than twenty percent (20%) of the total voting power of the outstanding shares of capital stock may call a special meeting of stockholders. The restriction on the ability of stockholders to call a special meeting means that a proposal to replace the board also could be delayed until the next annual meeting.

Description of the Warrants

We may issue warrants for the purchase of our preferred stock or common stock, or any combination thereof. Warrants may be issued independently or together with our preferred stock or common stock and may be attached to, or separate from, any offered securities. Each series of warrants will be issued under a separate warrant agreement to

be entered into between us and the warrant holder or a bank or trust company, as warrant agent. In the event we engage a warrant agent, the warrant agent will act solely as our agent in connection with the warrants. The warrant agent will not have any obligation or relationship of agency or trust for or with any holders or beneficial owners of warrants. This summary of certain provisions of the warrants is not complete. For the terms of a particular series of warrants, you should refer to the prospectus supplement and the warrant agreement for that particular series.

The prospectus supplement relating to a particular series of warrants to purchase our common stock or preferred stock will describe the terms of the warrants, including the following:

- the title of the warrants;
- the exercise price of the warrants;
- the offering price for the warrants, if any;
 - the aggregate number of warrants;

the designation and terms of the common stock or preferred stock that may be purchased upon exercise of the warrants;

•f applicable, the designation and terms of the securities with which the warrants are issued and the number of warrants issued with each security;

•f applicable, the date from and after which the warrants and any securities issued with the warrants will be separately transferable;

the number of shares of common stock or preferred stock that may be purchased upon exercise of a warrant and the exercise price for the warrants;

- the dates on which the right to exercise the warrants shall commence and expire;
- if applicable, the minimum or maximum amount of the warrants that may be exercised at any one time;
- the currency or currency units in which the offering price, if any, and the exercise price are payable;
 - if applicable, a discussion of material U.S. federal income tax considerations;
 - the antidilution provisions of the warrants, if any;
 - the redemption or call provisions, if any, applicable to the warrants;

any provisions with respect to the holder's right to require us to repurchase the warrants upon a change in control or similar event; and

any additional terms of the warrants, including procedures, and limitations relating to the exchange, exercise and settlement of the warrants.

Holders of equity warrants will not be entitled:

- to vote, consent or receive dividends;
- receive notice as stockholders with respect to any meeting of stockholders for the election of our directors or any other matter; or
 - exercise any rights of our stockholders.

Description of the Units

We may issue units comprised of one or more of the other classes of securities described in this prospectus in any combination. Each unit will be issued so that the holder of the unit is also the holder of each security included in the unit. Thus, the holder of a unit will have the rights and obligations of a holder of each included security. The prospectus supplement will describe:

the designation and terms of the units and of the securities comprising the units, including whether and under what circumstances the securities comprising the units may be held or transferred separately;

- a description of the terms of any agreement governing the units;
- a description of the provisions for the payment, settlement, transfer or exchange of the units; and
 - a discussion of material federal income tax considerations, if applicable; and

The descriptions of the units in this prospectus and in any prospectus supplement are summaries of the material provisions of the applicable agreements. These descriptions do not restate those agreements in their entirety and may not contain all the information that you may find useful. We urge you to read the applicable agreements because they, and not the summaries, define your rights as holders of the units.

PLAN OF DISTRIBUTION

We may sell the offered securities in any of the ways described below or in any combination or any other way set forth in an applicable prospectus supplement from time to time:

to or through underwriters or dealers;

through one or more agents; or

• directly to purchasers or to a single purchaser.

The distribution of the securities may be effected from time to time in one or more transactions:

- at a fixed price, or prices, which may be changed from time to time;
 - at market prices prevailing at the time of sale;
 - at prices related to such prevailing market prices; or
 - at negotiated prices.

Each prospectus supplement will describe the method of distribution of the securities and any applicable restrictions.

The prospectus supplement with respect to the securities of a particular series will describe the terms of the offering of the securities, including the following:

- the name or names of any underwriters, dealers or agents and the amounts of securities underwritten or purchased by each of them:
- the public offering price of the securities and the proceeds to us and any discounts, commissions or concessions allowed or reallowed or paid to dealers; and
 - any exchanges on which the securities may be listed.

Any offering price and any discounts or concessions allowed or reallowed or paid to dealers may be changed from time to time.

Only the agents or underwriters named in each prospectus supplement are agents or underwriters in connection with the securities being offered thereby.

We may authorize underwriters, dealers or other persons acting as our agents to solicit offers by certain institutions to purchase securities from us pursuant to delayed delivery contracts providing for payment and delivery on the date stated in each applicable prospectus supplement. Each contract will be for an amount not less than, and the aggregate amount of securities sold pursuant to such contracts shall not be less nor more than, the respective amounts stated in each applicable prospectus supplement. Institutions with whom the contracts, when authorized, may be made include commercial and savings banks, insurance companies, pension funds, investment companies, educational and charitable institutions and other institutions, but shall in all cases be subject to our approval. Delayed delivery contracts will be subject only to those conditions set forth in each applicable prospectus supplement, and each prospectus supplement will set forth any commissions we pay for solicitation of these contracts.

Agents, underwriters and other third parties described above may be entitled to indemnification by us against certain civil liabilities, including liabilities under the Securities Act of 1933, or to contribution from us with respect to payments that the agents, underwriters or other third parties may be required to make in respect of these civil liabilities. Agents, underwriters and such other third parties may be customers of, engage in transactions with, or perform services for us in the ordinary course of business.

One or more firms, referred to as "remarketing firms," may also offer or sell the securities, if a prospectus supplement so indicates, in connection with a remarketing arrangement upon their purchase. Remarketing firms will act as principals

for their own accounts or as our agents. These remarketing firms will offer or sell the securities in accordance with the terms of the securities. Each prospectus supplement will identify and describe any remarketing firm and the terms of its agreement, if any, with us and will describe the remarketing firm's compensation. Remarketing firms may be deemed to be underwriters in connection with the securities they remarket. Remarketing firms may be entitled under agreements that may be entered into with us to indemnification by us against certain civil liabilities, including liabilities under the Securities Act of 1933, and may be customers of, engage in transactions with, or perform services for, us in the ordinary course of business.

Certain underwriters may use this prospectus and any accompanying prospectus supplement for offers and sales related to market-making transactions in the securities. These underwriters may act as principal or agent in these transactions, and the sales will be made at prices related to prevailing market prices at the time of sale.

The securities we offer may be new issues of securities and may have no established trading market. The securities may or may not be listed on a securities exchange. Underwriters may make a market in these securities, but will not be obligated to do so and may discontinue any market making at any time without notice. We can make no assurance as to the liquidity of, or the existence of trading markets for, any of the securities.

Certain persons participating in an offering may engage in overallotment, stabilizing transactions, short covering transactions and penalty bids in accordance with rules and regulations under the Securities Exchange Act of 1934. Overallotment involves sales in excess of the offering size, which create a short position. Stabilizing transactions permit bids to purchase the underlying security so long as the stabilizing bids do not exceed a specified maximum. Short covering transactions involve purchases of the securities in the open market after the distribution is completed to cover short positions. Penalty bids permit the underwriters to reclaim a selling concession from a dealer when the securities originally sold by the dealer are purchased in a short covering transaction to cover short positions. Those activities may cause the price of the securities to be higher than it would otherwise be. If commenced, the underwriters may discontinue any of the activities at any time.

We also may sell any of the securities through agents designated by us from time to time. We will name any agent involved in the offer or sale of these securities and will list commissions payable by us to these agents in the applicable prospectus supplement. These agents will be acting on a best efforts basis to solicit purchases for the period of its appointment, unless stated otherwise in the applicable prospectuses.

LEGAL MATTERS

The validity of the securities offered by this prospectus will be passed upon by Silvestre Law Group, P.C., Westlake Village, California.

EXPERTS

Stegman & Company, our independent registered public accounting firm, has audited our consolidated financial statements included in our Annual Report on Form 10-K for the years ended December 31, 2009 and 2008, as set forth in their report, which is incorporated by reference in this prospectus and elsewhere in the registration statement. Our financial statements are, and audited financial statements to be included in subsequently filed documents will be, incorporated by reference in reliance on Stegman & Company's report (to the extent covered by consents filed with the Securities and Exchange Commission), given on their authority as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We have filed with the SEC a registration statement to register the securities offered by this prospectus under the Securities Act. This prospectus is part of that registration statement, but omits certain information contained in the registration statement, as permitted by SEC rules. For further information with respect to our Company and this offering, reference is made to the registration statement and the exhibits and any schedules filed with the registration statement. Statements contained in this prospectus as to the contents of any document referred to are not necessarily complete and in each instance, if the document is filed as an exhibit, reference is made to the copy of the document filed as an exhibit to the registration statement, each statement being qualified in all respects by that reference. You may obtain copies of the registration statement, including exhibits, as noted in the paragraph below or by writing or telephoning us at:

NEURALSTEM, INC 9700 Great Seneca Highway, Rockville, Maryland 20850 Attn: Chief Financial Officer Tel: (301) 366-4841

We file annual, quarterly and other reports, proxy statements and other information with the SEC. Our SEC filings are available to the public over the Internet at the SEC's website at http://www.sec.gov. You may also read and copy any

document we file at the SEC's Public Reference Room at 100 F Street, NE, Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information on the Public Reference Room. You can also inspect reports, proxy statements and other information about us at the offices of the National Association of Securities Dealers, Reports Section, 1735 K Street, N.W., Washington, D.C. 20006.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

We incorporate information into this prospectus by reference, which means that we disclose important information to you by referring you to another document filed separately with the SEC. The information incorporated by reference is deemed to be part of this prospectus, except for any such information superseded by information contained in later-filed documents or directly in this prospectus. This prospectus incorporates by reference the documents set forth below that we have previously filed with the SEC (excluding those portions of any Form 8-K that are not deemed "filed" pursuant to the General Instructions of Form 8-K). These documents contain important information about us and our financial condition.

We incorporate by reference into this prospectus supplement the information contained in the documents listed below, which is considered to be a part of this prospectus supplement:

•Our Annual Report on Form 10-K and 10-K/A filed with the Commission on March 31, 2010, for the year ended December 31, 2009 and as amended on October 5 2010, respectively;

- Our Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2010, filed on May 17, 2010;
- Our Quarterly Report on Form 10-Q for the fiscal quarter ended June 30, 2010, filed on August 16, 2010;
- •Our Current Reports on Form 8-K filed on June 11, 2010, June 29, 2010, and July 14, 2010 (excluding any information furnished in such reports under Item 2.02, Item 7.01 or Item 9.01);
- •Our Definitive Proxy Statement on Form 14A for our 2010 Annual Meeting of Stockholders, filed with the SEC on March 26, 2010; and
- •The description of our common stock contained in our Registration Statement on Form SB-2 (Registration No. 333-142451), as amended (the "Registration Statement"), filed under the Securities Act of 1933, as amended, with the Commission on April 30, 2007 and declared effective May 4, 2007.

All reports and other documents we subsequently file pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act prior to the termination of this offering, including all such documents we may file with the SEC after the date of the initial registration statement and prior to the effectiveness of the registration statement, but excluding any information furnished to, rather than filed with, the SEC, will also be incorporated by reference into this prospectus and deemed to be part of this prospectus from the date of the filing of such reports and documents.

We will provide without charge to each person, including any beneficial owner, to whom this prospectus is delivered, upon written or oral request, a copy of any or all documents that are incorporated by reference into this prospectus, but not delivered with the prospectus, other than exhibits to such documents unless such exhibits are specifically incorporated by reference into the documents that this prospectus incorporates. You should direct written requests to: NEURALSTEM, INC, 9700 Great Seneca Highway, Rockville, Maryland 20850 Attn: Chief Financial Officer Tel: (301) 366-4841

\$50,000,000

NEURALSTEM, INC.

Common Stock

Preferred Stock

Warrants

Units

PROSPECTUS

October 14, 2010