ALTEON INC /DE Form POS AM April 05, 2004

As filed with the Securities and Exchange Commission on April 5, 2004

Registration No. 333-106048

SECURITIES AND EXCHANGE COMMISSION Washington, D.C. 20549

POST-EFFECTIVE AMENDMENT NO. 1

TO

FORM S-3

REGISTRATION STATEMENT

UNDER

THE SECURITIES ACT OF 1933

Alteon Inc.

(Exact Name of Registrant as Specified in its Charter)

Delaware

(State or Other Jurisdiction of Incorporation of Organization)

13-3304550

(I.R.S. Employer Identification No.)

6 Campus Drive

Parsippany, New Jersey 07054

(201) 934-5000

(Address, including zip code, and telephone number, including area code, of Registrant's principal executive offices)

Kenneth I. Moch

President and Chief Executive Officer

Alteon Inc.

6 Campus Drive

Parsippany, New Jersey 07054

(201) 934-5000

(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copy to:

Marsha E. Novick, Esq. Stevens & Lee, P.C.

600 College Road East

Princeton, New Jersey 08540

(609) 243-9111

Approximate date of commencement of proposed sale to the public: From

time to time 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 of the Securities Act of 1933, other than securities offered only in connection with dividend or interest reinvestment plans, check the following box. /X/

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, please check the following box. / $\!\!\!/$

EXPLANATORY NOTE

Alteon Inc. is filing this Post-Effective Amendment No. 1 to the Registration Statement solely for the purpose of adding the following paragraph after the first paragraph of the section of the prospectus captioned "Plan of Distribution."

"We may engage BNY Capital Markets, Inc. to act as an underwriter or agent in an at-the-market offering of our common stock."

In addition, the prospectus contained in this Post-Effective Amendment No. 1 has been updated to reflect the information incorporated by reference herein from the Registrant's Annual Report on Form 10-K for the year ended December 31, 2003.

ALTEON INC.

COMMON STOCK \$100,000,000

This prospectus will allow us to issue our common stock from time to time. This means we will provide a prospectus supplement each time we issue securities; the prospectus supplement will inform you about the specific terms of that offering and also may add, update or change information contained in this document. You should read this document and any prospectus supplement carefully before you invest.

Our common stock is traded on The American Stock Exchange under the symbol "ALT." On March 31, 2004 the last reported sale price of the common stock was \$1.80 per share.

INVESTING IN OUR COMMON STOCK INVOLVES A HIGH DEGREE OF RISK. SEE "RISK FACTORS" BEGINNING ON PAGE 4.

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. Any representation to the contrary is a criminal offense.

The date of this prospectus is April 5, 2004.

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ALTEON INC.

We are a product-based biopharmaceutical company engaged in the discovery and development of small molecule drugs to reverse or slow down diseases of aging and complications of diabetes. Our product candidates represent novel approaches to some of the largest pharmaceutical markets. Our lead compound is in clinical development; several others are in earlier development stages. These pharmaceutical candidates were developed as a result of our research on the Advanced Glycation End-Products ("A.G.E.") pathway, a fundamental pathological process and inevitable consequence of aging that causes or contributes to many medical disorders, including cardiovascular, kidney and eye diseases.

A.G.E.s are glucose/protein complexes that form as a result of circulating blood glucose reacting with proteins. These A.G.E. complexes subsequently interact and bond (crosslink) with other proteins, resulting in "hardened" (stiffened) arteries, toughened tissues and impaired flexibility and function of many body organs. In healthy individuals, this pathological A.G.E.-formation process occurs slowly as the body ages. In diabetic patients, the rate of A.G.E. accumulation and the extent of protein crosslinking are accelerated because of high glucose levels.

Our research and drug development activities targeting the A.G.E. pathway have taken three directions: the breaking of A.G.E. crosslinks between proteins in order to reverse damage ("A.G.E. Crosslink Breakers"); the prevention or inhibition of A.G.E. formation ("A.G.E.-Formation Inhibitors") and the reduction of the A.G.E. burden through a novel class of anti-hyperglycemic agents, Glucose Lowering Agents ("GLA"). We believe that we were the first company to focus on the development of compounds to treat diseases caused by A.G.E. formation and crosslinking. Since our inception, we have created an extensive library of novel compounds targeting the A.G.E. pathway, and have actively pursued patent protection for these discoveries.

The primary focus of our research and development activities is alagebrium chloride (formerly ALT-711), which is our lead product candidate and

we believe the only A.G.E. Crosslink Breaker in advanced clinical development. In February, 2004, the United States Adopted Name (USAN) Council approved alagebrium chloride as the generic name of the chemical compound formerly known as ALT-711. Alagebrium offers the possibility of the first therapeutic approach to "breaking" A.G.E. crosslinks, the benefit of which may be to reverse tissue damage caused by aging and diabetes, thereby restoring flexibility and function to tissues, blood vessels and organs of the body. Alagebrium has demonstrated safety and efficacy in three Phase 2 trials and several Phase 1 studies in which over 800 patients received alagebrium in clinical trials. We are actively developing the compound for the treatment of cardiovascular diseases including systolic hypertension and heart failure. In July 2003, we announced initial results from the Phase 2b SAPPHIRE (Systolic And Pulse Pressure Hemodynamic Improvement by Restoring Elasticity) and SILVER (Systolic Hypertension Interaction with Left VEntricular Remodeling) trial that focused on patients with systolic hypertension. Alagebrium was safe and well tolerated at all doses tested. Results from this 768 patient, six-month, placebo-controlled, dose-ranging study showed that although the pre-specified primary endpoint of reduction of systolic blood pressure by office cuff pressure measurement did not demonstrate statistical significance, as compared to placebo, pre-specified secondary analyses of ambulatory blood pressure measurements ("ABPM") in all patients who completed the study demonstrated a blood pressure lowering effect at lower doses of approximately 4 mm Hg net of placebo. In February 2004, we announced the partial results of a post hoc analysis which showed that alagebrium treatment resulted in significant lowering of systolic blood pressures in patients with a baseline systolic ABPM of > or = 140 mm Hg, with little concurrent effect on diastolic blood pressure readings. The treatment effects were greatest in patients with higher starting systolic blood pressure readings.

The DIAMOND (Distensibility Improvement And ReModeling in Diastolic Heart Failure) open-label, single dose trial of alagebrium was conducted in 23 patients with diastolic heart failure ("DHF"). Treatment with alagebrium over 16 weeks demonstrated a statistically significant reduction in left ventricular mass and a marked improvement in left ventricular diastolic filling. The trial also showed statistically significant improvements in multiple quality of life measurements. Pre-specified primary endpoint data was not evaluable. Patients with Class III heart failure at baseline, the sickest patients in the study, appeared to benefit the most from alagebrium treatment. Side effects were as expected for a similar patient population of this size and severity. In 2001, we conducted a Phase 2a clinical trial, in which 93 patients received alagebrium or placebo tablets once daily for eight weeks. Study results showed that alagebrium patients experienced a statistically significant and clinically meaningful reduction in pulse pressure (p