As filed with the Securities and Exchange Commission on --------, 2004

Registration No. 333-----

SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

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

A.P. Pharma, Inc.

(Exact name of registrant as specified in its charter)

Delaware	94-2875566
(State or other jurisdiction of incorporation or organization)	(I.R.S. employer identification no.)

123 Saginaw Drive, Redwood City, California 94063 (650) 366-2626

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

Michael O'Connell
President and Chief Executive Officer
A.P. Pharma, Inc.
123 Saginaw Drive
Redwood City, California 94063
(650) 366-2626

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

Copies to:
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Approximate date of commencement of proposed sale to the public: From time to time as soon as practicable after this Registration Statement become effective.

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

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, as amended, 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 of 1933, as amended, 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 of 1933, as amended, 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.[ ]

CALCULATION OF REGISTRATION FEE

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Title of each class	Proposed

of securities to be Registered	Maximum Offering Price (2)	Amount of Registration Fee
Common Stock (3)	N/A (1)	N/A (1)
Total	$15,000,000(4)	$1,900.50

(1) Not applicable pursuant to General Instruction II(D) to Form S-3 under the Securities Act of 1933, as amended.
(2) Estimated solely for purposes of calculating the registration fee in accordance with Rule 457(o) under the Securities Act of 1933, as amended.
(3) Subject to note (4) below, this Registration Statement registers an indeterminate number of shares of common stock that the Registrant may sell from time to time.
(4) The aggregate offering price for all common stock that the Registrant may sell from time to time pursuant to this Registration Statement will not exceed $15,000,000. The aggregate amount of the Registrant's common stock registered hereunder that may be sold in "at the market" offerings for the account of the Registrant is limited to that which is permissible under Rule 415(a)(4) under the Securities Act of 1933, as amended.

The Registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment that specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933 or until this Registration Statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.

PROSPECTUS (Subject to Completion) Dated May 4, 2004

The information in this Prospectus is not complete and may be changed. We are not allowed to sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This Prospectus is not an offer to sell these securities and is not soliciting an offer to buy these securities in any state where the offer or sale is not permitted.

A.P. PHARMA, INC.

$15,000,000

Common Stock

The shares of common stock of A.P. Pharma, Inc. covered by this prospectus may be offered and sold to the public from time to time in one or more issuances.

Our common stock trades on the Nasdaq National Market under the symbol "APPA". On May 3, 2004, the last reported sale price of the common stock on the Nasdaq National Market was $3.28 per share.

This prospectus is part of a registration statement that we filed with the Securities and Exchange Commission utilizing a "shelf" registration process. This prospectus provides you with a general description of the shares that we may offer in one of more offerings. Each time we offer shares, we will provide a supplement to this prospectus that will contain more specific information about the terms of that offering. We may also add, update or change in the prospectus supplement any of the information contained in this prospectus. This prospectus may not be used to sell any of our common stock unless accompanied by a prospectus supplement. You should read both this prospectus and any prospectus supplement together with additional information described under the heading "Where You Can Find More Information" before you make your investment decision.

The aggregate offering price of all common stock sold under this prospectus will not exceed $15,000,000.

Beginning on page 4, we have listed several "RISK FACTORS" which you should consider. You should read the entire prospectus carefully before you make your investment decision.

We may sell shares to or through underwriters or dealers, through agents, or directly to investors.

The Securities and Exchange Commission and state regulatory authorities have not approved or disapproved these securities, or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The Date of this Prospectus is----------, 2004

ABOUT THIS PROSPECTUS

We have not authorized any dealer, salesman or other person to give any information or to make any representation other than those contained or incorporated by reference in this prospectus and the accompanying supplement to this prospectus. You must not rely upon any information or representation not contained or incorporated by reference in this prospectus or the accompanying prospectus supplement. This prospectus and the accompanying supplement to this prospectus do not constitute an offer to sell or the solicitation of an offer to buy common stock, nor do this prospectus and the accompanying supplement to this prospectus constitute an offer to sell or the solicitation of an offer to buy common stock in any jurisdiction to any person to whom it is unlawful to make such offer or solicitation in such jurisdiction. You should not assume that the information contained in this prospectus and the accompanying prospectus supplement is accurate on any date subsequent to the date set forth on the front of the document or that any information we have incorporated by reference is correct on any date subsequent to the date of the document incorporated by reference, even though this prospectus and any accompanying prospectus supplement is delivered or common stock is sold on a later date.

This prospectus is part of a registration statement that we filed with the Securities and Exchange Commission, or SEC, using a "shelf" registration process. Under this shelf registration process, we may, from time to time, issue and sell to the public any part of the shares described in this prospectus in one or more offerings up to a total dollar amount of $15,000,000.

This prospectus provides you with a general description of the common stock we may offer. Each time we sell the common stock, we will provide a prospectus supplement containing specific information about the terms of that offering. The prospectus supplement may also add, update or change information in this prospectus or in documents incorporated by reference in this prospectus. To the extent that any statement that we make in a prospectus supplement is inconsistent with statements made in this prospectus or in documents incorporated by reference in this prospectus, the statements made or incorporated by reference in this prospectus will be deemed modified or superseded by those made in the prospectus supplement. You should carefully read both this prospectus and any prospectus supplement together with the additional information described under the heading "Where You Can Find More Information" before buying any common stock in this offering.

The registration statement containing this prospectus, including exhibits to the registration statement, provides additional information about us and the common stock offered under this prospectus. The registration statement can be read at the SEC web site or at the SEC offices mentioned under the heading "Where You Can Find More Information."

In this prospectus, the "company," the "Registrant," "A.P. Pharma," "APP," "we," "us," and "our" refer to A.P. Pharma, Inc.

ABOUT THE COMPANY

We are a specialty pharmaceutical company focused on the development of pharmaceutical products utilizing our proprietary polymer-based drug delivery systems. Our focus is the development and commercialization of our patented bioerodible injectable and implantable systems under the trade name Biochronomer (TM).

Our business strategy is twofold:

* to develop selected proprietary products, funding them through the preliminary phases of regulatory review before entering into partnerships to share costs and to earn a share of future profits; and

* to license our proprietary technologies to corporate partners after the successful completion of reimbursed feasibility studies to earn research and development fees, licensing fees, milestone payments and royalties.

Initial targeted areas of application for our drug delivery technologies include pain management; anti-nausea, anti-inflammatory, anti-infective, oncology and ophthalmology applications; device coatings and DNA delivery. Product development programs have been funded primarily by royalties from topical prescription products currently marketed by our pharmaceutical partners, Johnson & Johnson and Aventis, proceeds from the divestiture of our cosmeceutical and toiletry product lines in July 2000, fees we receive from collaborative partners, and proceeds from the sale of our Analytical Standards business in February 2003.

Bioerodible polymers are of increasing interest within the pharmaceutical and biotechnology community for use in both drug delivery applications and as devices. We have made substantial progress in developing the Biochronomer bioerodible polymers that potentially represent a significant improvement over existing drug delivery systems. A major point of difference with other delivery systems is that our polymers have been specifically designed as drug delivery systems and are versatile. Over one hundred in vivo and in vitro studies have been completed to advance understanding of this innovative drug delivery technology. Importantly, the initial toxicology data indicate that the technology is safe for use in humans. Studies demonstrate complete and controlled bioerosion of the polymers. Erosion times can be varied from hours to days, weeks or months and mechanical properties can be adjusted to produce materials as diverse as injectable gels, coatings, strands, wafers, films or microspheres. In addition, the manufacturing is reproducible, has been scaled up under GMP conditions and the polymers are stable, provided they are stored under appropriate conditions. In studies, the polymers were observed to erode to completion and, once the drug was released, no polymer remained. In addition, the polymers bioerode with low acidity, thus potentially allowing the delivery of sensitive proteins and DNA.

Our first Biochronomer product candidate is APF112 for the treatment of post-surgical pain. APF112 incorporates the well-known analgesic mepivacaine in our Biochronomer system. It is designed to provide 24 to 36 hours of post-surgical pain relief and to minimize the use of morphine-like drugs (opioids) which are used extensively in post-surgical pain management. Opioids are associated with a wide range of side effects, such as nausea, sedation, dizziness, constipation, vomiting, urinary retention, and in some situations, life-threatening respiratory depression. We completed Phase 1 human clinical trials for APF112 in 2002. In 2003, we initiated Phase 2 clinical trials. Our initial target is pain management following inguinal hernia repair. The first part of the trial was an open-label study which was successfully completed. Results of the Part 1 study indicate that the pharmacokinetic measurements demonstrated meaningful levels of mepivacaine over a three day period consistent with observations made in preclinical studies with APF112. No severe or serious adverse events were reported and wound healing in all patients was observed to be normal over a 30-day follow-up period. The second part of the Phase 2 trial which is currently

ongoing is a blinded study involving 90 patients and compares two doses of APF112 with the current standard treatment for post-surgical pain. The endpoints for the trial will include a visual analog score of pain intensity, the standard means of measuring pain, and reduction in use of opioid-type pain medication by patients. We believe that more than 20 million surgical procedures are performed annually in the U.S. which could benefit from this product.

Our second product candidate is APF530 for the prevention of nausea and vomiting following chemotherapy or surgery. We commenced human clinical trials in the second quarter of 2004. Using the Company's proprietary Biochronomer(TM) bioerodible drug delivery system, APF530 is designed to provide three to five days of continuous relief from chemotherapy-induced nausea and vomiting following a single subcutaneous injection. APF530 combines A.P. Pharma's Biochronomer drug delivery system with granisetron, one of a class of 5-HT3 antagonists which have revolutionized the treatment of nausea and vomiting during and after chemotherapy. The drug is currently administered by intravenous (IV) injection, followed by oral administration for a number of days. Biochronomer delivery of granisetron is a potential alternative to the IV and subsequent oral administration in the $2 billion annual market for anti-emetics. In animal studies, APF530 utilizing the Biochronomer bioerodible drug delivery system demonstrated sustained release at constant and therapeutically equivalent blood drug levels.
The initial clinical study is designed to determine the safety and tolerability of APF530, and will include approximately 18 healthy volunteers at a single clinical site in the United Kingdom. A.P. Pharma is also finalizing pre-clinical work prior to filing an Investigational New Drug (IND) application in the U.S. that could allow the Company to go directly into U.S. Phase 2 studies in cancer patients with APF530.

We have also entered into fee-paying feasibility studies with several companies to develop a variety of products using our Biochronomer(TM) delivery systems. These products are being developed in the areas of vaccines, ophthalmology, device coatings and DNA delivery. In general, these research and development arrangements provide for us to receive research and development fees from our collaborators. Three of these development programs have moved into in vivo testing and, if they are concluded successfully, could lead to licensing agreements under which a partner would pay for development costs and we would receive a license fee, research and development fees, milestone payments and a royalty upon a product's marketing clearance and commercialization.

In February 1997, we received FDA marketing clearance for our first pharmaceutical product based on our original patented Microsponge(R) technology, Retin-A Micro(R), which was licensed to Ortho Neutrogena, a member of the Johnson & Johnson family of companies. This product was launched in the United States in March 1997. Retin-A Micro was also launched in Canada in the third quarter of 2001 and Phase 3 clinical trials were completed in Europe in 2002. In May 2002, the FDA granted marketing clearance for a new low-dose formulation of Retin-A Micro, which was launched in the U.S. in July 2002. The Company is eligible to receive royalty income based on sales of these products over the life of the applicable patents, until 2016.

We licensed to Dermik Laboratories, an Aventis company, a Microsponge-based formulation incorporating 5-fluorouracil (5-FU) for the treatment of actinic keratoses, a precancerous skin condition. The product was launched in the first quarter of 2001 under the brand name Carac(TM). This product has a number of advantages over other topical therapies, including less irritation with shorter duration of therapy and reduced dosage frequency. The Company is eligible to receive royalty income based on the sales of this product over the life of the applicable patents, until 2021.

In February 2003, we sold the assets of our wholly-owned subsidiary, APS Analytical Standards, Inc., to GFS Chemicals of Columbus, Ohio, for $2.1 million in cash and the right to receive royalties for the next five years. The Company, founded in February 1983 as a California corporation under the name AMCO Polymerics, Inc., changed its name to Advanced Polymer Systems, Inc. in 1984 and was reincorporated in Delaware in 1987. The name was changed to A.P. Pharma, Inc. in May 2001 to reflect the

new pharmaceutical focus of the Company.

FORWARD-LOOKING INFORMATION

Statements made in this prospectus or in the documents incorporated by reference herein that are not statements of historical fact are forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (the "Securities Act"), and Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). A number of risks and uncertainties, including those discussed under the caption "Risk Factors" below and the documents incorporated by reference herein could affect such forward-looking statements and could cause actual results to differ materially from the statements made.

RISK FACTORS

You should consider carefully the following risk factors, along with other information contained or incorporated by reference in this prospectus, in deciding whether to invest in our securities. These factors, among others, may cause actual results, events or performances to differ materially from those expressed in any forward-looking statements we made in this prospectus.

Our bioerodible drug delivery system business is at an early stage of development.

Our bioerodible drug delivery system business is at an early stage of development. Our ability to produce bioerodible drug delivery systems that progress to and through clinical trials is subject to, among other things:

- success with our research and development efforts;
- selection of appropriate therapeutic compounds for delivery;
- the required regulatory approval.

Successful development of delivery systems will require significant preclinical and clinical testing prior to regulatory approval in the United States and elsewhere. In addition, we will need to determine whether any potential products can be manufactured in commercial quantities at an acceptable cost. Our efforts may not result in a product that can be marketed. Because of the significant scientific, regulatory and commercial milestones that must be reached for any of our research programs to be successful, any program may be abandoned, even after significant resources have been expended.

We will need additional capital to conduct our operations and to develop our products and our ability to obtain the necessary funding on favorable terms in the future is uncertain.

We will require additional capital resources in order to conduct our operations and develop our products. While we estimate that our existing capital resources, royalty income and interest income will be sufficient to fund our current level of operations for at least the next year based on current business plans, we cannot guarantee that this will be the case. The timing and degree of any future capital requirements will depend on many factors, including:

- continued scientific progress in our research and development programs;
- the magnitude and scope of our research and development programs;
- our ability to establish and maintain strategic collaborations or partnerships for research, development, clinical testing, manufacturing and marketing;
- our progress with preclinical and clinical trials;
- the time and costs involved in obtaining regulatory approvals;
- the costs involved in preparing, filing, prosecuting,

maintaining, defending and enforcing patent claims.

We intend to acquire additional funding through strategic collaborations, in the form of license fees, research and development fees and milestone payments. In the event that additional funds are obtained through arrangements with collaborative partners, these arrangements may require us to relinquish rights to some of our technologies, product candidates or products that we would otherwise seek to develop and commercialize ourselves. If sufficient funding is not available, we may be required to delay, reduce the scope of or eliminate one or more of our research or development programs, each of which could have a material adverse effect on our business.

If we are unable to recruit and retain skilled employees, we may not be able to achieve our objectives.

Retaining our current employees and recruiting qualified scientific personnel to perform future research and development work will be critical to our success. Competition is intense for experienced scientists, and we may not be able to retain or recruit sufficient skilled personnel to allow us to pursue collaborations and develop our products and core technologies to the extent otherwise possible.

We are reliant on single source third party contractors for the manufacture and production of raw materials and product candidates.

We currently, and for the foreseeable future will, rely upon outside contractors to manufacture, supply and package for us key intermediates, active pharmaceutical ingredients and formulated drug product for our product candidates. Our current dependence upon others for the manufacture of our raw materials and product candidates and our anticipated dependence upon others for the manufacture of any products that we may develop, may adversely affect our ability to develop our product candidates in a timely manner and
may adversely affect future profit margins and our ability to commercialize any products that we may develop on a timely and competitive basis.

Entry into clinical trials with one or more products may not result in any commercially viable products.

We do not expect to generate any significant revenues from product sales for a period of several years. We may never generate revenues from product sales or become profitable because of a variety of risks inherent in our business, including risks that:

- clinical trials may not demonstrate the safety and efficacy of our products;

- - we need to perform extensive final formulation and stability work on our polymer and product candidates and if this is unsuccessful, our product candidates may not be commercially viable;

- completion of clinical trials may be delayed, or costs of clinical trials may exceed anticipated amounts;

- we may not be able to obtain regulatory approval of our products, or may experience delays in obtaining such approvals;

- we and our licensees may not be able to successfully market our products.

Because we or our collaborators must obtain regulatory approval to market our products in the United States and foreign jurisdictions, we cannot predict whether or when we will be permitted to commercialize our products.

Federal, state and local governments in the United States and governments in other countries have significant regulations in place that govern many of our activities. The preclinical testing and clinical trials of the products that we develop ourselves or that our collaborators develop are subject to government regulation and may prevent us from creating commercially viable products from our discoveries. In addition, the sale by us or our collaborators of any commercially viable

product will be subject to government regulation from several standpoints, including the processes of:

- manufacturing;

- advertising and promoting;

- selling and marketing;

- labeling; and

- distributing.

We may not obtain regulatory approval for the products we develop and our collaborators may not obtain regulatory approval for the products they develop. Regulatory approval may also entail limitations on the indicated uses of a proposed product.

The regulatory process, particularly for biopharmaceutical products like ours, is uncertain, can take many years and requires the expenditure of substantial resources. Any product that we or our collaborative partners develop must receive all relevant regulatory agency approvals or clearances, if any, before it may be marketed in the United States or other countries. In particular, human pharmaceutical therapeutic products are subject to rigorous preclinical and clinical testing and other requirements by the Food and Drug Administration in the United States and similar health authorities in foreign countries. The regulatory process, which includes extensive preclinical testing and clinical trials of each product in order to establish its safety and efficacy, is uncertain, can take many years and requires the expenditure of substantial resources.

Data obtained from preclinical and clinical activities is susceptible to varying interpretations that could delay, limit or prevent regulatory agency approvals or clearances. In addition, delays or rejections may be encountered as a result of changes in regulatory agency policy during the period of product development and/or the period of review of any application for regulatory agency approval or clearance for a product. Delays in obtaining regulatory agency approvals or clearances could:

- significantly harm the marketing of any products that we or our collaborators develop;

- impose costly procedures upon our activities or the activities of our collaborators;

- diminish any competitive advantages that we or our collaborative partners may attain; or

- adversely affect our ability to receive royalties and generate revenues and profits.

In addition, the marketing and manufacturing of drugs and biological products are subject to continuing FDA review, and later discovery of previously unknown problems with a product, its manufacture or its marketing may result in the FDA requiring further clinical research or restrictions on the product or the manufacturer, including withdrawal of the product from the market.

We depend on our collaborators to help us complete the process of developing and testing our products and our ability to develop and commercialize products may be impaired or delayed if our collaborative partnerships are unsuccessful.

Our strategy for the development, clinical testing and commercialization of our products requires entering into collaborations with corporate partners, licensors, licensees and others. We are dependent upon the subsequent success of these other parties in performing their respective responsibilities and the cooperation of our partners. Our collaborators may not cooperate with us or perform their obligations under our agreements with them. We cannot control the amount and timing of our collaborators' resources that will be devoted to our research activities related to our collaborative agreements with them. Our collaborators may choose to pursue existing or alternative technologies in preference to those being developed in collaboration with us.

Under agreements with collaborators, we may rely significantly on them, among other activities, to:

- fund research and development activities with us;

- pay us fees upon the achievement of milestones; and

- market with us any commercial products that result from our collaborations.

Our reliance on the research activities of our non-employee scientific advisors and other research institutions, whose activities are not wholly within our control, may lead to delays in technological developments.

We have relationships with scientific advisors at academic and other institutions, some of whom conduct research at our request. These scientific advisors are not our employees and may have commitments to, or consulting or advisory contracts with, other entities that may limit their availability to us. We have limited control over the activities of these advisors and, except as otherwise required by our collaboration and consulting agreements, can expect only limited amounts of their time to be dedicated to our activities. If our scientific advisors are unable or refuse to contribute to the development of any of our potential discoveries, our ability to generate significant advances in our technologies will be significantly harmed.

The loss of key personnel could slow our ability to conduct research and develop products.

Our future success depends to a significant extent on the skills, experience and efforts of our executive officers and key members of our scientific staff. We may be unable to retain our current personnel or attract or assimilate other highly qualified management and scientific personnel in the future. The loss of any or all of these individuals could harm our business and might significantly delay or prevent the achievement of research, development or business objectives.

We face intense competition from other companies.

Most or all of the products we could develop or commercialize will face competition from different therapeutic agents intended for treatment of the same indications or from other products incorporating drug delivery technologies. The competition potentially includes all of the pharmaceutical companies in the world. Many of these pharmaceutical companies have more financial resources, technical staff and manufacturing and marketing capabilities than we do. To the extent that we develop or market products incorporating drugs that are off-patent, or are being developed by multiple companies, we will face competition from other companies developing and marketing similar products.

Pharmaceutical companies are increasingly using advertising, including direct-to-consumer advertising, in marketing their products. The costs of such advertising are very high and are increasing. It may be difficult for our company to compete with larger companies investing greater resources in these marketing activities.

Other pharmaceutical companies are aggressively seeking to obtain new products by licensing products or technology from other companies. We will be competing to license or acquire products or technology with companies with far greater financial and other resources.

Inability to obtain special materials could slow down our research and development process.

Some of the critical materials and components used in our developed products are sourced from a single supplier. An interruption in supply of a key material could significantly delay our research and development process.

Special materials must often be manufactured for the first time for use in drug delivery systems, or materials may be used in the systems in a manner different from their customary commercial uses. The quality of materials can be critical to the performance of a drug delivery system, so a reliable source of a

consistent supply of materials is important. Materials or components needed for our drug delivery systems may be difficult to obtain on commercially reasonable terms, particularly when relatively small quantities are required, or if the materials traditionally have not been used in pharmaceutical products.

Patents and other intellectual property protection may be difficult to obtain or ineffective.

Patent protection generally has been important in the pharmaceutical industry. Our existing patents may not cover future products, additional patents may not be issued, and current patents or patents issued in the future may not provide meaningful protection or prove to be of commercial benefit.

In the United States, patents are granted for specified periods of time. Some of our earlier patents have expired, or will expire, over the next several years.

Other companies may successfully challenge our patents in the future. Others may also challenge the validity or enforceability of our patents in litigation. If any challenge is successful, other companies may then be able to use the invention covered by the patent without payment. In addition, if other companies are able to obtain patents that cover any of our technologies or products, we may be subject to liability for damages and our activities could be blocked by legal action unless we can obtain licenses to those patents.

In addition, we utilize significant unpatented proprietary technology and rely on unpatented trade secrets and proprietary know-how to protect certain aspects of our products and technologies and the methods used to manufacture them. Other companies have or may develop similar technology which will compete with our technology.

Our royalty revenues could decline.

Our royalty revenues in future periods could vary significantly. Major factors which could have an effect on our royalty revenues include, but are
not limited to:

- our partners' decisions about amounts and timing of advertising support for Retin-A Micro and Carac.

- our partners' decisions about other promotion and marketing support for Retin-A Micro and Carac.

- the timing of approvals for new product applications both in the United States and abroad.

- the expiration or invalidation of patents.

- decreases in licensees' sales of product due to competition, manufacturing difficulties or other factors that affect sales of product, including
regulatory restrictions on the advertising of pharmaceutical products.

USE OF PROCEEDS

We will retain broad discretion over the use of the net proceeds from the sale of our common stock offered hereby. Except as described in any prospectus supplement, we currently anticipate using the net proceeds from the sale of our common stock hereby primarily for clinical trials, research and development expenses and general and administrative expenses. The amounts and timing of the expenditures may vary significantly depending on numerous factors, such as the progress of our research and development efforts, participation from potential partnerships, technological advances and the competitive environment for our products. We may also use a portion of the net proceeds to acquire or invest in complementary businesses, products and technologies. Although we have no specific arrangements with respect to acquisitions, we evaluate acquisition opportunities and engage in related discussions with other companies from time to time.

Pending the use of the net proceeds, we intend to invest the net proceeds in short-term, interest-bearing, investment-grade securities.

DESCRIPTION OF CAPITAL STOCK

As of the date of this registration statement, we have authorized 50,000,000 shares of $0.01 par value common stock and 2,500,000 shares of $0.01 par value preferred stock.

Common Stock

As of May 3, 2004, there were 20,744,735 shares of common stock outstanding held of record by --- stockholders. The holders of common stock have one vote for each share on all matters submitted to a vote of the stockholders. Subject to preferences that may be applicable to any outstanding preferred stock, holders of common stock will receive ratably any dividends declared by the board of directors out of funds legally available for payment of dividends. In the event of a liquidation, dissolution or winding up of the company, holders of common stock will share ratably in all assets remaining after payment of liabilities and the liquidation preference of any outstanding preferred stock. Holders of common stock have no preemptive rights, no right to convert their common stock into any other securities, and no right to vote cumulatively for the election of directors. The outstanding shares of common stock are fully paid and nonassessable.

On August 19, 1996, the board of directors adopted a stockholders rights plan, which allows stockholders to purchase common stock at discount in the event of a tender offer or when any person acquires 20% or more of our outstanding common stock, subject to some exceptions.

We have not paid cash dividends on our common stock and do not plan to pay any such dividends in the foreseeable future. Under lending agreements we are party to, we are restricted from declaring or paying dividends on our common stock.

Preferred Stock

The board of directors may provide for the issuance of up to 2,500,000 shares of preferred stock in one or more series and fix the rights, preferences, privileges and restrictions thereof, including:

- dividend rights,
- conversion rights,
- voting rights,
- terms of redemption,
- liquidation preferences, and
- the number of shares constituting any series, or the designation of such series, without any further vote or action by the stockholders.

The issuance of preferred stock may have the effect of delaying, deferring or preventing a change in control of the company without action by the shareholders and could adversely affect the rights and powers, including voting rights, of the holders of common stock. In certain circumstances, the issuance of preferred stock could depress the market price of common stock. As of May 3, 2004, there were no shares of preferred stock outstanding.

PLAN OF DISTRIBUTION

We may sell the common stock:

* to or through one or more underwriters or dealers;
* directly to purchasers, through agents; or
* through a combination of any of these methods of sale.

We may distribute the common stock:

* 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 times of sale;
* at prices related to such prevailing market prices; or
* at negotiated prices.

We will describe the method of distribution of the common stock in the applicable prospectus supplement.

We may determine the price or other terms of the common stock offered under this prospectus by use of an electronic auction. We will describe how any auction will determine the price or any other terms, how potential investors may participate in the auction and the nature of the obligations of the underwriter, dealer or agent in the applicable prospectus supplement.

Underwriters, dealers or agents may receive compensation in the form of discounts, concessions or commissions from us or our purchasers (as their agents in connection with the sale of the common stock). In addition, underwriters may sell common stock to or through dealers, and those dealers may receive compensation in the form of discounts, concessions or commissions from the underwriters and/or commissions from the purchasers for whom they act as agent. These underwriters, dealers or agents may be considered to be underwriters under the Securities Act of 1933, as amended. As a result, discounts, commissions, or profits on resale received by the underwriters, dealers or agents may be treated as underwriting discounts and commissions. Each applicable prospectus supplement will identify any such underwriter, dealer or agent, and describe any compensation received by them from us. Any initial public offering price and any discounts or concessions allowed or reallowed or paid to dealers may be changed from time to time.

We may enter into agreements that provide for indemnification against certain civil liabilities, including liabilities under the Securities Act of 1933, as amended, or for contribution with respect to payments made by the underwriters, dealers or agents and to reimburse these persons for certain expenses.

We may grant underwriters who participate in the distribution of the common stock an option to purchase additional shares of common stock to cover over-allotments, if any, in connection with the distribution. Underwriters or agents and their associates may be customers of, engage in transactions with, or perform services for us in the ordinary course of business.

In connection with the offering of the common stock, certain underwriters and selling group members and their respective affiliates, may engage in transactions that stabilize, maintain or otherwise affect the market price of the common stock. These transactions may include stabilization transactions effected in accordance with Rule 104 of Regulation M promulgated by the SEC pursuant to which these persons may bid for or purchase common stock for the purpose of stabilizing its market price.

The underwriters in an offering of the common stock may also create a "short position" for their account by selling more common stock in connection with the offering than they are committed to purchase from us. In that case, the underwriters could cover all or a portion of the short position by either purchasing common stock in the open market or by exercising any over-allotment option granted to them by us. In addition, any managing underwriter may impose "penalty bids" under contractual arrangements with other underwriters, which means that they can reclaim from an underwriter (or any selling group member participating in the offering) for the account of the other underwriters, the selling concession for the common stock that is distributed in the offering but subsequently purchased for the account of the underwriters in the open market. Any of the transactions described in this paragraph or comparable transactions that are described in any accompanying prospectus supplement may result in the maintenance of the price of the common stock at a level above that which might otherwise prevail in the open market. None of the transactions described in this paragraph or in an accompanying prospectus supplement are required to be taken by any underwriters and, if they are undertaken, may be discontinued at any time.

LEGAL MATTERS

The validity of the shares offered hereby will be passed upon for us by Heller Ehrman White & McAuliffe, LLP, Palo Alto, California, counsel to the company. Julian N. Stern, the

Secretary of the company, is the owner of [179,000] shares of common stock and is the sole stockholder and employee of a professional corporation that is a partner of Heller Ehrman White & McAuliffe LLP.

EXPERTS

The consolidated financial statements of A.P. Pharma, Inc. appearing in A.P. Pharma's Annual Report (Form 10-K) for the year ended December 31, 2003, have been audited by Ernst & Young LLP, independent auditors, as set forth in their report thereon included therein and incorporated herein by reference. Such consolidated financial statements are incorporated herein by reference in reliance upon such report given on the authority of such firm as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly, and current reports, proxy statements, and other documents with the Securities and Exchange Commission (the "SEC"). You may read and copy any document we file at the SEC's public reference room at Judiciary Plaza Building, 450 Fifth Street, N.W., Room 1024, Washington, D.C. 20549. You should call 1-800-SEC-0330 for more information on the public reference room. The SEC maintains an internet site at http://www.sec.gov where certain information regarding issuers (including A.P. Pharma) may be found.

This prospectus is part of a registration statement that we filed with the SEC (Registration No. --------). The registration statement contains more information than this prospectus regarding A.P. Pharma and its common stock, including certain exhibits and schedules. You can get a copy of the registration statement from the SEC at the address listed above or from its internet site.

DOCUMENTS INCORPORATED BY REFERENCE

The SEC allows us to "incorporate" into this prospectus information we file with the SEC in other documents. This means that we can disclose important information to you by referring to other documents that contain that information. The information may include documents filed after the date of this prospectus which update and supersede the information you read in this prospectus. We incorporate by reference the documents listed below, except to the extent information in those documents is different from the information contained in this prospectus, and all future documents filed with the SEC under Sections 13(a), 13(c), 14, or 15(d) of the Securities Exchange Act of 1934 until we terminate the offering of these shares.

SEC Filing (File No.)	Period/Filing Date
Annual Report on Form 10-K	Year ended December 31, 2003
Registration Statement on Form 8-A describing the common stock	Filed on August 7, 1987

You may request a copy of these documents, at no cost, by writing to:

A.P. Pharma, Inc.
123 Saginaw Drive
Redwood City, California 94063
Attention: Investor Relations
Telephone: (650) 366-2626.

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 14. Other Expenses Of Issuance And Distribution.

The following table sets forth various expenses in

connection with the sale and distribution of the securities being registered. All of the amounts shown are estimates except for the Securities and Exchange Commission Registration Fee.

Securities and Exchange Commission Registration Fee	$ 1,900.50
Accounting Fees	10,000.00
Legal Fees and Expenses	25,000.00
Printing and Engraving Expenses	25,000.00
Miscellaneous	1,099.50
TOTAL	$63,000.00

Item 15. Indemnification Of Officers And Directors.

The registrant has the power to indemnify its officers and directors against liability for certain acts pursuant to Section 145 of the General Corporation Law of the State of Delaware. Section B of Article VI of the registrant's Certificate of Incorporation provides:

"(1) Right to Indemnification. Each person who was or is made a party or is threatened to be made a party to or is involved in any action, suit or proceeding, whether civil, criminal, administrative or investigative (hereinafter a "proceeding"), by reason of the fact that he or she, or a person of whom he or she is the legal representative, is or was a director or officer, of the Corporation or is or was serving at the request of the Corporation, as a director, officer, employee or agent of another corporation or of a partnership, joint venture, trust or other enterprise, including service with respect to employee benefit plans, whether the basis of such proceeding is alleged action in an official capacity as a director, officer, employee or agent or in any other capacity while serving as a director, officer, employee or agent, shall be indemnified and held harmless by the Corporation to the fullest extent authorized by the General Corporation Law of the State of Delaware, as the same exists or may hereafter be amended (but, in the case of any such amendment, only to the extent that such amendment permits the Corporation to provide broader indemnification rights than said law permitted the Corporation to provide prior to such amendment), against all expense, liability and loss (including attorneys' fees, judgments, fines, ERISA excise taxes or penalties and amounts paid or to be paid in settlement) reasonably incurred or suffered by such person in connection therewith and such indemnification shall continue as to a person who has ceased to be a director, officer, employee or agent and shall inure to the benefit of his or her heirs, executors and administrators; provided, however, that, the Corporation shall indemnify any such person seeking indemnification in connection with a proceeding (or part thereof) initiated by such person only if such proceeding (or part thereof) was authorized by the board of directors of the Corporation. The right to indemnification conferred in this Section B shall be a contract right and shall include the right to be paid by the Corporation the expenses incurred in defending any such proceeding in advance of its final disposition; provided, however, that, if the General Corporation Law of the State of Delaware requires, the payment of such expenses incurred by a director or officer in his or her capacity as a director or officer (and not in any other capacity in which service was or is rendered by such person while a director or officer, including, without limitation, service to an employee benefit plan) in advance of the final disposition of a proceeding, shall be made only upon delivery to the Corporation of an undertaking, by or on behalf of such director or officer, to repay all amounts so advanced if it shall ultimately be determined that such director or officer is not entitled to be indemnified under this Section or otherwise. The Corporation may, by action of its Board of Directors, provide indemnification to employees and agents of the Corporation with the same scope and effect as the foregoing indemnification of directors and officers.

(2) Non-Exclusivity of Rights. The right to indemnification and the payment of expenses incurred in defending a proceeding in advance of its final disposition conferred in this Section B shall not be exclusive of any other rights which any person may have or hereafter acquire under any statute, provisions of this

Certificate of Incorporation, Bylaw, agreement, vote of stockholders or disinterested directors or otherwise.

(3) Insurance. The Corporation may maintain insurance, at its expense, to protect itself and any director, officer, employee or agent of the Corporation or another corporation, partnership, joint venture, trust or other enterprise against any such expense, liability or loss, whether or not the Corporation would have the power to indemnify such person against such expense, liability or loss under Delaware General Corporation Law." Registrant maintains directors' and officers' liability insurance in the amount of $7,000,000 which covers civil liabilities. Such insurance helps the Registrant to attract qualified officers and directors, by providing a means for the Company to pay the costs and expenses involved in the event civil litigation is brought against of one of the Registrant's officers or directors."

Item 16. Exhibits.

EXHIBIT	DESCRIPTION
1.1*	-- Form of Underwriting Agreement
5.1*	-- Opinion of Heller, Ehrman, White & McAuliffe
23.1*	-- Consent of Heller, Ehrman, White & McAuliffe (filed as part of Exhibit 5)
23.2	-- Consent of Ernst & Young LLP
24	-- Power of Attorney (See Page II-4)

* To be filed by amendment or as an exhibit to a current report on Form 8-K and incorporated herein by reference.

Item 17. Undertakings.

A. The undersigned Registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement;

(i) To include any prospectus required by section 10(a)(3) of the Securities Act of 1933;

(ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in the volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement;

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the Registration Statement or any material change to such information in the Registration Statement;

Provided, however, that paragraphs (i) and (ii) shall not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in periodic reports filed by the registrant pursuant to section 13 or section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the Registration Statement.

(2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new Registration Statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

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

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

The undersigned Registrant hereby undertakes that:

(1) For purposes of determining any liability under the Securities Act, the information omitted from the form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in a form of prospectus filed by the registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act shall be deemed to be part of this registration statement as of the time it was declared effective.

(2) For the purpose of determining any liability under the Securities Act, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized in Redwood City, State of California, on the 4th day of May, 2004.

A.P. PHARMA, INC.

By: /S/ Michael P.J. O'Connell

Michael P.J. O'Connell
President and Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Michael P.J. O'Connell and Gordon Sangster, or either of them, with the power of substitution, her or his attorney in fact, to sign any amendments to this Registration Statement (including post-effective amendments), and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, to act on and file any supplement to any prospectus included in this registration statement or any such amendment or any subsequent registration

statement filed pursuant to Rule 462(b) under the Securities Act, hereby ratifying and confirming all that each of said attorney-in-fact, or his substitute or substitutes, may do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed below by the following persons in the capacities and on the dates indicated.

SIGNATURE	TITLE	DATE
/S/ Michael O'Connell Michael P.J. O'Connell	President and Chief Executive Officer (Principal Executive Officer)	May 4, 2004
/S/ Gordon Sangster Gordon Sangster	Chief Financial Officer (Principal Accounting Officer)	May 4, 2004
/S/ Paul Goddard Paul Goddard	Chairman of the Board of Directors	May 4, 2004
/S/ Stephen Drury Stephen Drury	Director	May 4, 2004
/S/ Peter Riepenhausen Peter Riepenhausen	Director	May 4, 2004
/S/ Toby Rosenblatt Toby Rosenblatt	Director	May 4, 2004
/S/ Gregory H. Turnbull Gregory H. Turnbull	Director	May 4, 2004
/S/ Dennis Winger Dennis Winger	Director	May 4, 2004
/S/ Robert Zerbe Robert Zerbe	Director	May 4, 2004

A.P. PHARMA, INC.

EXHIBIT INDEX

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* To be filed by amendment or as an exhibit to a current report on Form 8-K and incorporated herein by reference.

19

Exhibit 23.2

Consent of Ernst & Young LLP, Independent Auditors

We consent to the reference to our firm under the caption "Experts" in the Registration Statement on Form S-3 and related Prospectus of A.P. Pharma, Inc. for the registration of common stock and to the incorporation by reference therein of our report dated February 20, 2004, with respect to the consolidated financial statements and schedule of A.P. Pharma, Inc. included in its Annual Report on Form 10-K for the year ended December 31, 2003, filed with the Securities and Exchange Commission.

/S/ ERNST & YOUNG, LLP
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Palo Alto, California
April 30, 2004