

ARROWHEAD RESEARCH CORP

Form S-3

April 14, 2005

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As filed with the Securities and Exchange Commission on April 14, 2005

File No. 333-\_\_\_\_\_

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**UNITED STATES**  
**SECURITIES AND EXCHANGE COMMISSION**

Washington, DC 20549

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**FORM S-3**  
**REGISTRATION STATEMENT**

*UNDER THE*  
*SECURITIES ACT OF 1933*

**ARROWHEAD RESEARCH CORPORATION**

(Name of small business issuer in its charter)

**Delaware**  
(State of incorporation)

**46-0408024**  
(I.R.S. Employer Identification No.)

**1118 East Green Street**  
**Pasadena, California 91106**

**(626) 792-5549**

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

**R. Bruce Stewart, President**

*Copies of communications sent to:*

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ARROWHEAD RESEARCH CORPORATION

1118 East Green Street

Pasadena, California 91106

(626) 792-5549

(Name and address of agent for service)

Rachael A. Simonoff, Esq.

GUTH | CHRISTOPHER LLP

10866 Wilshire Boulevard, Suite 1250

Los Angeles, CA 90024

(310) 234-6920

**Approximate date of commencement of proposed sale to the public:** From time to time after the effective date of the Registration Statement, as determined by the Registrant.

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

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

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

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

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

## CALCULATION OF REGISTRATION FEE

| Title of Securities to be Registered     | Amount to be Registered <sup>(1)</sup> | Proposed Maximum                        | Proposed Maximum                        | Amount of Registration Fee |
|--|--|---|---|----------------------------|
|  |  | Offering Price Per Share <sup>(2)</sup> | Aggregate Offering Price <sup>(2)</sup> |                            |
| Common Stock, par value \$.001 per share | 502,260                                | \$ 3.92                                 | \$ 1,968,860                            | \$ 231.74                  |

- (1) Pursuant to Rule 416 of the Securities Act of 1933, as amended, this Registration Statement also covers such additional securities as may become issuable to prevent dilution resulting from stock splits, stock dividends and similar events.
- (2) Pursuant to Rule 457(c), calculated on the basis of the average of the high and low prices per share of the Registrant's common stock reported on the Nasdaq SmallCap Market on April 11, 2005.

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



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

*PROSPECTUS (Subject to Completion)*

*dated April \_\_, 2005*

# **ARROWHEAD RESEARCH CORPORATION**

## **Up to 502,260 shares of Common Stock**

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This prospectus covers the sale of up to 502,260 shares of the Common Stock, \$.001 par value (the Common Stock ) of Arrowhead Research Corporation, a Delaware corporation (the Company ), by the selling security holders identified in this prospectus, (collectively with any holder s transferee, pledgee, donee or successor, the Selling Stockholders ).

The Company will not receive any proceeds from the sale by the Selling Stockholders of the Common Stock.

The Company s Common Stock is traded on The Nasdaq SmallCap Market and under the symbol ARWR. On April 11, 2005, the closing sale price of our Common Stock on The Nasdaq SmallCap Market was \$3.88 per share. Our principal executive offices are located at 1118 East Green Street, Pasadena, California 91106, and our telephone number is (626) 792-5549.

**Investing in our securities involves risks. You should carefully consider the risk factors beginning on page 1 of this prospectus before you make an investment in our securities.**

**Neither the Securities and Exchange Commission nor any state securities commission has 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 \_\_\_\_\_, 2005**

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You should read this prospectus, any applicable prospectus supplement and the information incorporated by reference in this prospectus before making an investment in the securities of Arrowhead Research Corporation. See *Where You Can Find More Information* for more information, page 10. You should rely only on the information contained in or incorporated by reference in this prospectus or a prospectus supplement. The Company has not authorized anyone to provide you with different information. This document may be used only in jurisdictions where offers and sales of these securities are permitted. You should assume that information contained in this prospectus, or in any document incorporated by reference, is accurate only as of any date on the front cover of the applicable document. Our business, financial condition, results of operations and prospects may have changed since that date.

### **SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS**

This prospectus and the documents incorporated by reference into it contain forward-looking statements that involve risks and uncertainties. The Company has made these statements in reliance on the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. The Company's forward-looking statements relate to future events or our future performance and include, but are not limited to, statements concerning our business strategy, future research and development projects, potential commercial revenues, capital requirements, new potential product introductions, expansion plans and the Company's funding requirements. Other statements contained in our filings that are not historical facts are also forward-looking statements. The Company has tried, wherever possible, to identify forward-looking statements by terminology such as *may*, *will*, *could*, *should*, *expects*, *anticipates*, *intends*, *plans*, *believes*, *seeks*, *estimates* and other comparable terms.

Forward-looking statements are not guarantees of future performance and are subject to various risks, uncertainties and assumptions that are difficult to predict. Actual results may differ materially from those anticipated in these forward-looking statements as a result of a number of factors, including the risk factors described below in this prospectus and in our periodic filings with the SEC, incorporated by reference or included in this prospectus. All forward-looking statements contained in this prospectus are made only as of the date on the prospectus cover. We are under no obligation and we expressly disclaim any such obligation to update or alter our forward-looking statements, whether as a result of new information, future events or otherwise. Before deciding to buy or sell our securities, you should be aware that the occurrence of the events described in these risk factors could harm our business, operating results and financial condition, which consequences could materially diminish the trading price of our securities and/or their value.

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**SUMMARY**

*Unless otherwise noted, (1) the term **Arrowhead Research** refers to Arrowhead Research Corporation, a Delaware corporation and formerly known as InterActive Group, Inc., (2) the terms **Arrowhead**, **the Company**, **we**, **us**, and **our**, refer to the ongoing business operations of Arrowhead and its subsidiaries, whether conducted through Arrowhead Research or a subsidiary of the company, (3) the term **ARC** refers to Arrowhead Research Corporation, a privately-held California corporation with which Arrowhead Research consummated a stock exchange transaction in January 2004, and (4) the term **Common Stock** refers to Arrowhead Research's common stock and the term **stockholder(s)** refers to the holders of Common Stock or securities exercisable for Common Stock.*

Arrowhead Research is a development-stage nanotechnology company structured to bring together a diverse and innovative mix of technologies in the areas of healthcare, semiconductors and manufacturing processes, a broad suite of intellectual property, and some of the most respected minds in this dynamic field. Nanotechnology generally refers to the investigation and manipulation of matter at the atomic, molecular, or macromolecular levels.

The Company was originally incorporated in South Dakota in 1989, and was reincorporated in Delaware in 2000. Arrowhead Research consummated a stock exchange transaction on January 12, 2004 with the owners of ARC, referred to as the **Stock Exchange**. In the **Stock Exchange**, the owners of ARC acquired approximately 89% of the **Common Stock** of the Company, and ARC became a wholly-owned subsidiary of the Company. The Company's principal executive offices are located at 1118 East Green Street, Pasadena, California 91106, and its telephone number is (626) 792-5549.

**RISK FACTORS**

An investment in our Company is speculative in nature and involves a high degree of risk. We are a development stage company and we have limited historical operations. We urge you to consider our likelihood of success and prospects in light of the risks, expenses and difficulties frequently encountered by entities at our current stage of development. Along with the other information included in this Prospectus and in our other filings with the Securities and Exchange Commission (the **SEC**), you should carefully consider the following risks and uncertainties, keeping in mind that they are not the only ones that affect us. Additional risks, which we do not presently consider material or of which we are not currently aware, may also adversely affect us.

Among other things, the following risk factors contain forward-looking statements that are based on certain assumptions about future risks and uncertainties. We believe that our assumptions are reasonable. Nonetheless, it is likely that at least some of these assumptions will not come true. Accordingly, our actual results will probably differ from the outcomes contained in any forward-looking statement, and those differences could be material. Factors that could cause or contribute to those differences include the ones discussed below, as well as those discussed elsewhere in this Prospectus and in our other filings with the SEC.

The first set of risk factors set forth below are the primary risks associated with our stock. The second set of risk factors set forth below are the primary risks associated with our business.

**CERTAIN RISK FACTORS RELATING TO OUR STOCK**

**Arrowhead's Common Stock price has fluctuated significantly since January 2004 and may continue to do so in the future.**

Because we are a development stage company, there are few objective metrics by which our progress may be measured. Consequently, we expect that the market price of our Common Stock will likely continue to fluctuate significantly. We do not expect to generate substantial revenue from the license or sale of our nanotechnology for several years, if at all. In the absence of product revenue as a measure of our operating performance, we anticipate that investors and market analysts will assess our performance by considering factors such as:

announcements of developments related to our business;



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developments in our strategic relationships with scientists within the nanotechnology field;

our ability to enter into or extend investigation phase, development phase, commercialization phase and other agreements with new and/or existing partners;

announcements regarding the status of any or all of our collaborations or products;

market perception and/or investor sentiment regarding nanotechnology as the next technological wave;

announcements regarding developments in the nanotechnology field in general;

the issuance of competitive patents or disallowance or loss of our patent rights; and

quarterly variations in our operating results.

We will not have control over many of these factors but expect that our stock price may be influenced by them. As a result, our stock price may be volatile and you may lose all or part of your investment.

Additional General Economic Conditions. The stock prices for many companies in the technology sector have experienced wide fluctuations that often have been unrelated to their operating performance. Such fluctuations may adversely affect the market price of our Common Stock.

**The market for purchases and sales of the Company's Common Stock may be very limited, and the sale of a limited number of shares could cause the price to fall sharply.**

Although the Common Stock is listed for trading on The Nasdaq SmallCap Market, currently, our securities are very thinly traded. In fact, the volume of trading has been light. Accordingly, it may be difficult to sell shares of the Common Stock quickly without significantly depressing the value of the stock. Unless we are successful in developing continued investor interest in our stock, sales of our stock could continue to result in major fluctuations in the price of the stock.

**Your interest in the Company may be substantially diluted as a result of the sale of additional securities to fund the Company's plan of operation.**

Our Certificate of Incorporation authorizes the issuance of an aggregate of 75 million shares of stock, consisting of 70 million shares of authorized common stock and 5 million shares of authorized preferred stock, on such terms and at such prices as the Board of Directors of the Company may determine. Of these shares, an aggregate of 15,494,011 shares of Common Stock have been issued, 12,515,043 shares of Common Stock are reserved for issuance upon exercise of outstanding warrants to purchase Common Stock ( Warrants ), and 4,959,000 shares of Common Stock are reserved for issuance upon exercise of stock options that have been granted under the Company's 2000 Stock Option Plan and may be granted under the Company's 2004 Equity Incentive Plan to employees, consultants and others expected to provide significant

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services to Arrowhead. Therefore, over 42 million shares of Common Stock remain available for issuance by the Company to raise additional capital, in connection with prospective acquisitions or for other corporate purposes. The Company currently has a need for additional capital and expects to issue its securities in connection with such capital raising. Issuances of additional shares of Common Stock would result in dilution of the percentage interest in our Common Stock of all stockholders ratably, and might result in dilution in the tangible net book value of a share of our Common Stock, depending upon the price and other terms on which the additional shares are issued. In addition, the issuance of additional shares of Common Stock upon exercise of the Warrants, or even the prospect of such issuance, may be expected to have an effect on the market for the Common Stock, and may have an adverse impact on the price at which shares of Common Stock trade.

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**If securities or industry analysts do not publish research reports about our business, of if they make adverse recommendations regarding an investment in our stock, our stock price and trading volume may decline.**

The trading market for our Common Stock will be influenced by the research and reports that industry or securities analysts publish about our business. We do not currently have and may never obtain research coverage by industry or securities analysts. If no industry or securities analysts commence coverage of our company, the trading price of our stock could be negatively impacted. In the event we obtain industry or security analyst coverage, if one or more of the analysts downgrade our stock or comment negatively on our prospects, our stock price would likely decline. If one of more of these analysts cease to cover us or our industry or fails to publish reports about our Company regularly, our Common Stock could lose visibility in the financial markets, which could also cause our stock price or trading volume to decline.

**The market price of the Common Stock may be adversely affected by the sale of shares by the Company's management or founding stockholders.**

Sales of our Common Stock by our officers, directors, employees and founding stockholders could adversely and unpredictably affect the price of those securities. Additionally, the price of Arrowhead's Common Stock could be affected even by the potential for sales by these persons.

**We may be the subject of securities class action litigation due to future stock price volatility.**

In the past, when the market price of a stock has been volatile, holders of that stock have often initiated securities class action litigation against the company that issued the stock. If any of our stockholders brought a lawsuit against us, we could incur substantial costs defending the lawsuit. The lawsuit could also divert the time and attention of our management.

**Our Board of Directors has the authority to issue up to 5,000,000 shares of Preferred Stock, which may make an acquisition of our Company by another company more difficult.**

We have adopted and may in the future adopt certain measures that may have the effect of delaying, deferring or preventing a takeover or other change in control of the Company that a holder of our Common Stock might consider in its best interest. Specifically, the Company's Board of Directors has the authority to issue up to 5,000,000 shares of preferred stock and to fix the rights (including voting rights), preferences and privileges of these shares (blank check preferred). Such preferred stock may have rights, including economic rights, senior to our Common Stock. As a result, the issuance of the preferred stock could have a material adverse effect on the price of our Common Stock and could make it more difficult for a third party to acquire a majority of our outstanding Common Stock.

**We do not intend to declare dividends on our Common Stock.**

We will not distribute cash to our stockholders until and unless we can develop sufficient funds from operations to meet our ongoing needs and implement our business plan. The time frame for that is inherently unpredictable, and you should not plan on receiving distributions or dividends on the Common Stock in the near future, if at all.

**CERTAIN RISK FACTORS RELATING TO OUR BUSINESS**

At this time, Arrowhead is a development stage company and our primary business objective is to commercialize pioneering, breakthrough products in nanotechnology. To accomplish our business objectives, Arrowhead seeks to acquire interests in existing or newly-formed entities engaged in research and development projects for the commercialization of nanoscale materials, devices, and systems. Additionally, Arrowhead funds nanoscience research and development at universities.

**We are a development stage company and the Company's success is subject to the substantial risks inherent in the establishment of a new business venture.**

As a consequence of the change in the control of the Company on January 12, 2004, the Company changed management and all efforts that were previously initiated by prior management were abandoned. At that time, the

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Company's new management adopted a new plan of operations based on the strategy that was only recently formulated by ARC following its formation in May 2003. To date, implementation of this strategy is still in the development stage. We have acquired majority interests in only four subsidiary companies and have funded only three university research projects at Caltech. The Company's business and operations should be considered to be in the development stage and subject to all of the risks inherent in the establishment of a new business venture. Accordingly, the intended business and operations of the Company may not prove to be successful in the near future, if at all. Any future success that the Company might enjoy will depend upon many factors, many of which may be beyond the control of the Company, or which cannot be predicted at this time. The Company may encounter unforeseen difficulties or delays in the implementation of its plan of operations which could have a material adverse effect upon the financial condition, business prospects and operations of the Company and the value of an investment in the Company.

**The Company has not generated revenue and its business model does not predict revenues in the foreseeable future.**

To date, the Company has not generated any revenue as a result of its current plan of operations. Moreover, given its strategy of financing new and unproven technology research, we do not expect to realize significant revenue from operations in the foreseeable future, if at all.

**We must overcome the many obstacles associated with integrating and operating varying business ventures to succeed.**

Arrowhead's model to integrate and oversee the strategic direction of various research and development projects presents many risks, including:

the difficulty of integrating operations and personnel; and

the diversion of our management's attention as a result of evaluating, negotiating and integrating acquisitions or new business ventures;

Generally, we provide administrative, operational and financial support to our subsidiaries. If we are unable to timely and efficiently design and integrate our administrative and operational functions, we may be unable to manage projects effectively, which could adversely affect our ability to meet our business objectives and the value of an investment in the Company could decline.

In addition, consummating acquisitions and taking advantage of strategic relationships could adversely impact our cash position, and dilute shareholder interests, for many reasons, including:

changes to our income to reflect the amortization of acquired intangible assets, including goodwill;

interest costs and debt service requirements for any debt incurred to fund our growth strategy; and

any issuance of securities to fund our operations or growth which dilutes or lessens the economic interest of current stockholders.

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To date, we have funded only three sponsored research projects at Caltech and acquired interests in only four subsidiaries, Aonex Technologies, Inc., Nanotechnica, Inc., Insert Therapeutics, Inc., and Calando Pharmaceuticals, Inc. We have had no significant experience in executing and implementing formations and acquisitions of subsidiaries and, if we are unable to do so effectively, the value of our stock could be negatively impacted.

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**We face a difficult and uncertain economic environment in our industry, which could adversely affect our business and operations.**

The high-tech industry in general has experienced a significant economic downturn during the past several years. The poor economic environment has contributed to the decline in value of leading semiconductor and electronics industry players, thus limiting cash available for funding basic science research and development of new products and technologies. Economic conditions may not improve in the near term, or at all. Any further future downturn would likely have a material adverse impact on our business and ability to fund our continued investment in nanoscience research and development, or to eventually generate revenues.

**There are substantial risks inherent in attempting to commercialize new technological applications, and, as a result, we may not be able to successfully develop nanotechnology for commercial use.**

The Company finances research and development of nanotechnology, which is new and unproven. The Company's investigative scientists are at various stages of developing technology and such technology's commercial feasibility and acceptance is unknown. Scientific research and development requires significant financing and has a lengthy lifecycle. To date, the Company's research and development projects have not produced commercially viable applications, and may never do so. During our research and development process, the Company may face technological issues that it may be unable to overcome. For example, our scientists must design and develop nanotechnology applications for potential products designed by third parties for use in cost-effective manufacturing processes. Because of these uncertainties, none of our potential applications may be successfully developed. If the Company is unable to successfully develop nanotechnology applications for commercial use, we will be unable to generate revenue or build a sustainable or profitable business.

**We will need to achieve commercial acceptance of our applications to obtain revenue and achieve profitability.**

Even if our research and development yields technologically feasible applications, the Company may not successfully develop commercial applications or products on a timely basis, if at all. If the Company's research efforts are successful, it could be at least several years before our technology will be commercially viable, and, during this period, superior competitive technologies may be introduced or customer needs may change, diminishing or extinguishing the commercial uses for our applications. To date, the broad markets have generally not adopted nanotechnology-enabled products. The Company cannot predict when broad-market acceptance for nanotechnology-enabled products will develop, if at all, and we cannot reasonably estimate the projected size of any market that may develop. If markets fail to accept nanotechnology-enabled products, we may not be able to achieve revenue from the commercial application of our technologies. Our revenue growth and achievement of profitability will depend substantially on our ability to introduce new technological applications to manufacturers for products accepted by customers. If we are unable to cost-effectively achieve OEM acceptance of our technology, or if the associated products do not achieve wide market acceptance, our business will be materially and adversely affected.

**The Company has a need for additional capital, and, if we are unable to secure adequate funds on acceptable terms, the Company may be unable to support its business plan.**

The Company has entered into agreements pursuant to which the Company is expected to provide substantial amounts of research project funding and financial support for majority-owned subsidiaries over an extended period of time.

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Based on current agreements, the Company has agreed to provide \$1,750,000 to its Calando Pharmaceuticals subsidiary on or before May 1, 2005 and \$4,000,000 to its Nanotechnica subsidiary on or before May 9, 2005, which deadline was previously extended from March 2005. These amounts exceed the Company's available cash resources, and to meet these obligations the Company will need to negotiate funding extensions or raise additional capital in the near term. If the Company seeks to raise additional capital, it may seek to do so by calling the outstanding Warrants for redemption, conducting one or more private placements of equity securities, selling additional securities in a registered public offering, or through a combination of one or more of such financing alternatives. There can be no assurance that, if needed, the Company will be able to successfully negotiate funding extensions or that additional capital resources will be available to the Company on terms that will be acceptable to the Company. If the Company is unable to raise the capital required on a timely basis, it may not be able to fund its research projects and the development of the businesses of its subsidiaries. In such event, the Company may be required to delay or reduce implementation of certain aspects of its plan of operations. Moreover, even if the necessary funding is available to the Company, the issuance of additional securities would dilute the equity interests of the Company's existing stockholders, perhaps substantially.



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**The Company's success depends on the attraction and retention of senior management and scientists with relevant expertise.**

The Company's future success will depend to a significant extent on the continued services of its key employees, particularly R. Bruce Stewart and Joseph T. Kingsley. Mr. Stewart conceived of the Company's business and overall operating strategy and has been instrumental in assisting the Company raise capital. Mr. Kingsley is the Company's Chief Financial Officer and is a key member of our management team as well as that of our subsidiaries. The Company does not maintain key man life insurance for these executives or any other executive. The Company's ability to execute its strategy also will depend on its ability to attract and retain qualified scientists, sales, marketing and additional managerial personnel. If we are unable to find, hire and retain qualified individuals, we could have difficulty implementing our business plan in a timely manner, or at all.

**Our failure to successfully develop collaborative relationships with government agencies, research institutions and other companies could harm our business.**

We have established and continue to seek collaborative arrangements with corporate partners, government agencies and public and private research institutions to develop, manufacture and market nanotechnology products. Our success depends on the development and success of these collaborative arrangements. However, we may not be able to enter into collaborative arrangements on commercially reasonable terms, and even if established, these arrangements may not succeed. If these programs are successful, our collaborative partners may seek to manufacture jointly developed products themselves or obtain them from alternative sources, rather than purchase them from us. Finally, these programs:

may require us to share control over our development, manufacturing and marketing programs and relinquish rights to our technology;

may be subject to termination at the discretion of the collaborative partners; and

may restrict our ability to engage in certain areas of product development, manufacturing and marketing.

**The Company may not be able to compete effectively in securing first-tier research and development projects when competing against existing or new ventures.**

Management believes that the Company's success to date in raising capital to finance nanotechnology research and commercialization projects is attributable, in large part, to the belief that the plan of operations adopted by the Company is relatively novel. If the Company continues to be successful in attracting funding for research and commercialization projects, it is possible that additional competitors could emerge and compete for financing. Should that occur, the Company could encounter difficulty in raising funds to finance its future operations and further research and commercialization projects.

Additionally, there are some companies that already fund early-stage, scientific research at universities, and some venture capital funds invest in companies seeking to commercialize technology. It is possible that these established companies and venture funds, as well as possible additional competitors, will emerge to finance nanotechnology research. Should that occur, the Company could encounter difficulty in obtaining the opportunity to finance first-tier research and commercialization projects. Furthermore, should any commercial undertaking by the Company, with respect to a particular product or technology, prove to be successful, there can be no assurance that competitors with greater financial resources than the Company will not emerge to offer similar competitive, products and/or technologies.



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### **Nanotechnology-enabled products are new and may be viewed as being harmful to human health or the environment.**

There is increasing public concern about the environmental and ethical implications of nanotechnology that could impede market acceptance of products developed through these means. Potentially, nanotechnology-enabled products could be composed of materials such as carbon, silicon, silicon carbide, germanium, gallium arsenide, gallium nitride, cadmium selenide or indium phosphide. Nanotechnology-enabled products have no historical safety record. Because of the size, shape, or composition of the nanostructures or because they may contain harmful elements, nanotechnology-enabled products could pose a safety risk to human health or the environment. In addition, some countries have adopted regulations prohibiting or limiting the use of certain materials that contain certain chemicals, which may limit the market for nanotechnology-enabled products. U.S. government authorities could, for social welfare or other purposes, prohibit or regulate the use of nanotechnology. The regulation and limitation of the kinds of materials used in or to develop nanotechnology-enabled products, or the regulation of the products themselves, could harm the commercialization of nanotechnology-enabled products and impair our ability to achieve revenue from the license of nanotechnology applications.

### **The Company will need approval from governmental authorities in the United States and other countries to successfully realize commercial value from the Company's activities.**

In order to clinically test manufacture, and market products for commercial use, at least three of the Company's current subsidiaries must satisfy mandatory procedures and safety and effectiveness standards established by various regulatory bodies, including the U.S. Food and Drug Administration (FDA) and the Federal Trade Commission (FTC). Technology and product development and approval within this regulatory framework takes a number of years and involves the expenditure of substantial resources. The time and expense required to perform the required testing can vary and is substantial. In addition, no action can be taken to market any biologic, drug or device in the United States until an appropriate marketing application has been approved by the FDA. Furthermore, even after initial FDA approval has been obtained, further trials may be required to provide additional data on safety and effectiveness. Adverse events that are reported during regulatory trials or after marketing approval can result in additional limitations being placed on a product's use and, potentially, withdrawal of the product from the market. Any adverse event, either before or after approval, can result in product liability claims against the Company, which could significantly and adversely impact the value of our Common Stock.

### **If export controls affecting our products are expanded, our business will be adversely affected.**

The U.S. government regulates the sale and shipment of numerous technologies by U.S. companies to foreign countries. Arrowhead's subsidiaries are developing products that might be useful for military and antiterrorism activities. Accordingly, U.S. government export regulations could restrict sales of these products in other countries. If the U.S. government places expanded export controls on our technology or products, our business would be materially and adversely affected. If the U.S. government determines that we have not complied with the applicable export regulations, we may face penalties in the form of fines or other punishment.

### **If we cannot protect or enforce our existing intellectual property rights or if our pending patent applications do not result in issued patents, we may lose our competitive advantage.**

Our ability to compete successfully will depend on whether we can protect our existing proprietary technology and manufacturing processes. We rely on a combination of patent and trade secret protection, non-disclosure agreements and cross-licensing agreements. These measures may not be adequate to safeguard the proprietary technology underlying our batteries. Employees, consultants, and others who participate in the development of our products may breach their non-disclosure agreements with us, and we may not have adequate remedies in the event of their

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breaches. In addition, our competitors may be able to develop products that are equal or superior to our products without infringing on any of our intellectual property rights. Moreover, we may not be able to effectively protect our intellectual property rights outside of the United States.

We intend to vigorously pursue enforcement and defense of our patents and our other proprietary rights. However, in doing so, we could incur significant expenses in preserving our proprietary rights, and these costs could harm our financial condition. We also are attempting to expand our intellectual property rights through our applications for new patents. Patent applications in the United States are maintained in secrecy until the patents that are applied for are ultimately issued. Since publication of discoveries in the scientific or patent literature tends to lag behind actual discoveries by several months, we cannot be certain that we are the first creator of inventions

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covered by pending patent applications, or the first to file patent applications on such inventions. Therefore, our pending patent applications may not result in issued patents and our issued patents may not afford protection against a competitor. Our failure to protect our existing proprietary technologies or to develop new proprietary technologies may substantially impair our ability to implement our business plan. If we are unable to derive value from our licensed or owned intellectual property, the value of your investment in the Company will decline.

**Other parties may have the right to utilize technology important to our business.**

We utilize certain intellectual property rights under non-exclusive licenses or have granted to others the right to utilize certain intellectual property rights licenses from a third party. Because we may not have the exclusive rights to utilize such intellectual property, other parties may be able to compete with us, which may harm our business.

**USE OF PROCEEDS**

The proceeds from the sale of the Common Stock offered by this prospectus are solely for the account of the Selling Stockholders. We will not directly receive any proceeds from the sale of shares under this prospectus.

**SELLING SECURITY HOLDERS**

The following table sets forth the number of shares of Common Stock beneficially owned by the Selling Stockholders as of April 14, 2005. Each Selling Stockholder acquired the shares of Common Stock listed beside such holder's name in the table below in exchange for 3,687,500 shares of restricted common stock in Insert Therapeutics, Inc. (Insert ), a Delaware corporation and one of the Company's majority-owned subsidiary. The Company has prepared and filed this registration statement with the SEC pursuant to the terms of that share exchange transaction. The Selling Stockholders may offer shares of Common Stock under this prospectus from time to time and may elect to sell none, some or all of the shares set forth next to their name. As a result, we cannot estimate the number of shares of Common Stock that the Selling Stockholders will beneficially own after termination of sales under this prospectus. In addition, the Selling Stockholders may have sold, transferred or otherwise disposed of all or a portion of their shares of Common Stock since the date on which they provided information for this table. We have not made independent inquiries about this. We are relying on written commitments from the Selling Stockholders to notify us of any changes in their beneficial ownership after the date they originally provided this information. See Plan of Distribution beginning on page 9.

| <b>Selling Stockholder (1)</b>             | <b>Total Number of Shares<br/>of Common Stock<br/>Beneficially Owned</b> | <b>Number of<br/>Shares of<br/>Common Stock</b> | <b>Percentage of<br/>Shares of<br/>Common Stock</b> |
|--|--|---|---|
|  | <b>Prior to the Offering(2)</b>  | <b>Offered</b>                                  | <b>After Offering</b>                               |
| California Technology Partners, L.P.(3)(4) | 251,130  | 251,130   | *   |
| J.J. Jacobs Enterprises LLC(4)             | 251,130  | 251,230   | *   |
| <b>Total:</b>                              | <b>502,260</b>   | <b>502,260</b>                                  |   |

\* Less than 1%.

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- (1) If required, information about other selling security holders, except for any future transferees, pledgees, donees or successors of selling security holders named in the table above, will be set forth in a prospectus supplement or amendment to the registration statement of which this prospectus is a part. Additionally, post-effective amendments to the registration statement will be filed to disclose any material changes to the plan of distribution from the description contained in the final prospectus.
- (2) Beneficial ownership is determined in accordance with the rules of the Commission and generally includes voting or investment power with respect to securities.
- (3) Dr. Gary S. Lazar, Managing Director of California Technology Ventures, LLC, was a member of the Board of Directors of Insert from May 2002 through June 2004. Dr. Lazar acted as interim president of Insert from May 2002 until August of 2002.
- (4) Mr. Alex Suh, Managing Director of California Technology Ventures, LLC and of J.J. Jacobs Enterprises, LLC, was a member of the Board of Directors of Insert from September 2000 to June 2004.

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**PLAN OF DISTRIBUTION**

The Common Stock offered by this prospectus may be sold by the Selling Stockholders, or by their respective pledgees, donees, transferees or other successors in interest. Such sales may be made at fixed prices that may be changed, at market prices prevailing at the time of sale, at prices related to such prevailing market prices, or at negotiated prices, and may be made in the over-the-counter market or any exchange on which the Common Stock may then be listed, or otherwise. In addition, the Selling Stockholders may sell some or all of their Common Stock through:

a block trade in which a broker-dealer may resell a portion of the block, as principal, in order to facilitate the transaction;

purchases by a broker-dealer, as principal, and resale by the broker-dealer for its account; or

ordinary brokerage transactions and transactions in which a broker solicits purchasers.

When selling the Common Stock, the Selling Stockholders may enter into hedging transactions. For example, the Selling Stockholders may:

enter into transactions involving short sales of the Common Stock by broker-dealers;

sell Common Stock short themselves and redeliver such shares to close out their short positions;

enter into option or other types of transactions that require the Selling Stockholder to deliver Common Stock to a broker-dealer, who will then resell or transfer the Common Stock under this prospectus; or

loan or pledge the Common Stock to a broker-dealer, who may sell the loaned shares or, in the event of default, sell the pledged shares.

The Selling Stockholders may negotiate and pay broker-dealers commissions, discounts or concessions for their services. Broker-dealers engaged by the Selling Stockholders may allow other broker-dealers to participate in resales. However, the Selling Stockholders and any broker-dealers involved in the sale or resale of the Common Stock may qualify as underwriters within the meaning of the Section 2(a)(11) of the Securities Act of 1933 (the Securities Act). In addition, the broker-dealers' commissions, discounts or concession may qualify as underwriters' compensation under the Securities Act. If the Selling Stockholders qualify as underwriters, they will be subject to the prospectus delivery requirements of Section 5(b)(2) of the Securities Act. In addition to selling their Common Stock under this prospectus, the Selling Stockholders may:

agree to indemnify any broker-dealer or agent against certain liabilities related to the selling of the Common Stock, including liabilities arising under the Securities Act;

transfer their Common Stock in other ways not involving market makers or established trading markets, including, but not limited to, directly by gift, distribution, privately negotiated transactions in compliance with applicable law or other transfer; or

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sell their Common Stock under Rule 144 of the Securities Act rather than under this prospectus, if the transaction meets the requirements of Rule 144. Each Selling Stockholder will bear all expenses with respect to the offering of Common Stock by such Selling Stockholder.



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**LEGAL OPINION**

Certain legal matters relating to the validity of the Common Stock offered by this prospectus will be passed upon for us by Guth | Christopher LLP, Los Angeles, California.

**EXPERTS**

The financial statements of the Company incorporated in this prospectus by reference to the Company's Annual Report on Form 10-KSB for the year ended September 30, 2004, have been so incorporated in reliance on the report dated December 23, 2003 of Kevin G. Breard, CPA, An Accountancy Corporation, and on the report dated November 5, 2004, except for note 10 as to which the date is December 9, 2004, of Rose, Snyder & Jacobs, a corporation of Certified Public Accountants, given on the authority of said firms as experts in auditing and accounting.

**WHERE TO FIND ADDITIONAL INFORMATION**

The Company files annual, quarterly and special reports, proxy statements and other information with the SEC. You may read and copy any document filed by the Company at the SEC's Public Reference Room at 450 Fifth Street, N.W., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information on the public reference room. The Company's filings with the SEC are also available to the public at the SEC's internet web site: <http://www.sec.gov>. You may also read and copy this information at the National Association of Securities Dealers, Inc., 1735 K Street, N.W., Washington, D.C. 20006.

The Company has filed a registration statement, of which this prospectus is a part, covering the securities offered hereby. As allowed by Commission rules, this prospectus does not include all of the information contained in the registration statement and the included exhibits, financial statements and schedules. You are referred to the registration statement, the included exhibits, financial statements and schedules for further information. This prospectus is qualified in its entirety by such other information.

**INFORMATION INCORPORATED BY REFERENCE**

The SEC allows the Company to incorporate by reference the information that is filed by the Company with the SEC, which means that the Company can disclose important information to you by referring you to those documents. The information incorporated by reference is considered to be a part of this prospectus, and later information that the Company files with the SEC will automatically update and supersede this information. This prospectus incorporates by reference the documents listed below, and any future filings made with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended, (the Exchange Act), until the Selling Stockholders sell all of the Common Stock offered herein. The documents incorporated by reference are:

1. The Company's Annual Report on Form 10-KSB/A for the fiscal year ended September 30, 2004, filed on December 16, 2004;

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2. The Company's Quarterly Report on Form 10-QSB for the fiscal quarter ended December 31, 2004, filed on February 11, 2005;
3. The Company's Current Reports on Form 8-K, filed on March 1, 2005, March 11, 2005, April 6, 2005, and April 14, 2005;
4. The description of the Common Stock contained in the Company's Information Statement on Schedule 14-C, filed on December 22, 2000; and
5. All documents filed by the Company pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Exchange Act, after the date of this Registration Statement and prior to the filing of a post-effective amendment to this registration statement of which this prospectus is a part that indicates that all securities offered hereunder have been sold, or which deregisters all securities then remaining unsold under such registration statement, shall be deemed to be incorporated by reference in the registration statement and to be a part hereof from the date of filing of such documents.

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The Company will provide, without charge, to each person, including any beneficial owner, to whom a copy of this prospectus is delivered, upon such person's written or oral request, a copy of any and all of the information incorporated by reference in this prospectus, other than exhibits to such documents, unless such exhibits are specifically incorporated by reference into the information that this prospectus incorporates. Requests should be directed to the Secretary at Arrowhead Research Corporation, 1118 East Green Street, Pasadena, California 91106; telephone: (626) 792-5549.

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**UP TO 502,260 SHARES OF COMMON STOCK**

**ARROWHEAD RESEARCH CORPORATION**

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**PROSPECTUS**

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April \_\_, 2005

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## PART II

## INFORMATION NOT REQUIRED IN PROSPECTUS

**Item 14. Other Expenses of Issuance and Distribution.**

The following table sets forth the costs and expenses, payable by the Company in connection with the registration and sale of the Common Stock being registered. All amounts are estimates except the SEC registration fee.

|                              | <u>Amount to be paid</u> |
|------------------------------|--------------------------|
| SEC registration fee         | \$ 231.74                |
| Printing expenses            | 5,000.00                 |
| Legal fees and expenses      | 25,000.00                |
| Accounting fees and expenses | 2,300.00                 |
| Miscellaneous                | 25,000.00                |
|                              | <u>\$ 57,531.74</u>      |

**Item 15. Indemnification of Directors and Officers.**

The Company's Certificate of Incorporation provides for the elimination of personal monetary liability of directors to the fullest extent permissible under Delaware law. Delaware law does not permit the elimination or limitation of director monetary liability for: (i) breaches of the director's duty of loyalty to the corporation or its stockholders; (ii) acts or omissions not in good faith or involving intentional misconduct or knowing violations of law; (iii) the payment of unlawful dividends or unlawful stock repurchases or redemptions or (iv) transactions in which the director received an improper personal benefit.

Section 145 of the Delaware General Corporation Law permits a Delaware corporation to indemnify, on certain terms and conditions, any person who was or is a party or is threatened to be made a party to any threatened pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative, by reason of the fact that he is or was a director, officer, employee or agent of the corporation or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by him in connection with such action. The Certificate of Incorporation and Bylaws of the Company require the Company to indemnify the Company's directors and officers to the fullest extent permitted under Delaware law.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the Company pursuant to the foregoing provisions, the Company has been advised that in the opinion of the SEC such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable.

**Item 16. Exhibits.**

See Exhibit Index set forth on page II-4 to this Registration Statement.

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**Item 17. Undertakings.**

The Company hereby undertakes:

(a) *Rule 415 Offering.*

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

(2) That, for the purpose of determining any liability under the Securities Act, each 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) *Filings incorporating subsequent Exchange Act documents by reference.*

The Company hereby undertakes that, for purposes of determining any liability under the Securities Act, each filing of the Company'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 this Registration Statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(c) *Request for Acceleration of Effective Date.*

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the Company has been advised that in the opinion of the SEC such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable.

In the event that a claim for indemnification against such liabilities (other than the payment by the Company of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Company will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.







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**EXHIBIT INDEX**

| <b><u>Exhibit<br/>Number</u></b> | <b><u>Document Description</u></b>   |
|----------------------------------|--|
| 3.1                              | Certificate of Incorporation of Interactive, Inc., a Delaware company, dated April 8, 2001 (1)   |
| 3.2                              | Certificate of Amendment of Certificate of Incorporation of InterActive Group, Inc., dated January 12, 2004 (effecting, among other things a change in the corporation's name to Arrowhead Research Corporation ). (2) |
| 3.3                              | Bylaws (1)   |
| 5.1                              | Opinion of Guth   Christopher LLP*   |
| 23.1                             | Consent of Guth   Christopher LLP (included in legal opinion filed as Exhibit 5.1)   |
| 23.2                             | Consent of Kevin G. Breard, CPA, an Accountancy Corporation*   |
| 23.3                             | Consent of Rose, Snyder & Jacobs, LLP, the Company's independent registered public accounting firm*  |

\* Filed herewith

(1) Incorporated by reference from exhibit A to the Schedule 14C filed by registrant on December 22, 2000.

(2) Incorporated by reference from exhibit C to the Schedule 14C filed by registrant on December 22, 2003.