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Titans of Tech: Anti-aging drugs, cure or quackery?

Major pharmaceutical companies let kid colleagues in biotech do the legwork.

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Leery of the stigmas of magic potions and quack doctors, large pharmaceutical companies are taking a wait-and-see attitude to the anti-aging market. That has opened up the door for startups – backed by wads of VC cash – to chase after the fountain of youth.

VCs are taking a leap of faith behind startups like Elixir, Chronogen, and LifeGen Technologies, which study the human genome to find the genetic basis of aging. Elixir scored \$40.5 million in VC funding last year, and Chronogen raised \$17 million to fund their anti-aging research.

The potential payoff is huge: the anti-aging market was worth \$42.7 billion in 2003, including creams, surgical procedures, pills, and potions, according to market research firm FIND/SVP.

So why haven't big pharmaceutical companies jumped on the opportunity? With massive R&D resources, thousands of research scientists, and enormous marketing budgets, these giants have a clear advantage over their smaller counterparts. But so far, big pharmas, like Genentech, GlaxoSmithKline, and Bristol-Meyers Squibb, have shied away from any research specifically labeled as "anti-aging."

With established reputations and millions of shareholders to answer to, large companies aren't eager to be linked with so unproven an area of research.

"The pharmaceutical industry has some very significant problems to contend with right now," says Paul Watkins, vice president of business development at BioMarker Pharmaceuticals, a Campbell, California-based pharmaceutical company that focuses on anti-aging genomics research. "There has been a decline in R&D production, fewer molecular entities are being approved by the FDA, and the cost of each new drug continues to go up."

Considering the losing streak, public pharmas want to re-build confidence, and not openly bank on risky fields like "anti-aging," and "longevity," which may cause more damage in the public eye.

Yet they are certainly not ignoring the opportunities. Eyeing the potential profits – and pitfalls – some are, in fact, spending money on research aimed at prolonging life. They just refrain from giving it the same label. Virtually every large pharma spends a great deal of its budget on R&D for various age-related diseases, such as cancer, Alzheimer's, and Parkinson's. Nevertheless, they emphatically deny any relation to "anti-aging" research.

However, some quiet affiliations are speaking volumes. Dr. Bennett Shapiro, executive vice president, of worldwide licensing and external research at Merck, is on the board of directors at Elixir Pharmaceuticals – suggesting an even closer relationship between big and little pharma companies. Shared board members or not, large pharmas won't align themselves with any research that has the term "anti-aging" attached to it.

"We are certainly working on drugs to treat diseases that tend to strike the elderly more than the young, such as Alzheimer's, but not specifically anti-aging," says Rick Koenig, spokesman for GlaxoSmithKline. A spokesperson for Genentech, which currently markets several drugs for cancer, says specifically that it has no activity in the anti-aging area.

Some startups are using the same strategy (see "[Vanity Sells](#)"). Because of the difficulties involved in finding and developing a true anti-aging drug, most are actually concentrating on compounds that treat the same age-related diseases that the large pharmas are going after – for the time being, anyway. The upstarts are up against the FDA, which has refused to review drugs specifically for anti-aging purposes.

Even if the FDA were to change its rules, pharmaceutical firms would still have a big problem: the time it takes to get the drug approved would likely exceed the 17 years of patent protection, and generic drug makers would make most of the profits. Then there's the matter of the millions of dollars drug development requires – a serious gamble, when the chips are down.

"Clearly there's no tractable pathway today, regulatory or clinical development, for an anti-aging drug," says Mr. Watkins. "It's no wonder why drug makers are biding their time for now." He believes that in the near future, they will have no choice but to "step up to the plate and admit that there is a sound scientific rationale about what's behind the aging process, and accept that it's absolutely a sound, credible area of science."

According to several anti-aging startups, their curiosity is piqued. BioMarker says that at least one large pharma has approached it about a possible strategic alliance. Cambridge, Massachusetts-based Elixir Pharmaceuticals also says that it is in talks with most of the major pharma companies, though it declined to offer details.

If the science doesn't convince big pharmas, perhaps the money will. "The consumer dynamic and the demographics will drive that," says Mr. Watkins. "Ultimately there will have to be a paradigm shift." In other words, they hope that big pharmas will someday come knocking.

Titans of Tech is an online column covering the impact of, and drama within, big companies. Have thoughts or suggestions for Titans of Tech? Email the column editor at bbarnett@redherring.com.

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