

Triptonide from Chinese Herb Exhibits Reversible Male Contraceptive Effects

*Triptonide, a natural compound purified from the *Tripterygium wilfordii* has been shown to possess reversible contraceptive effects in animal models.*

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/EINPresswire.com/ -- For decades, women have largely carried the responsibility for contraception thanks

to the pill. Despite female contraceptive pills existing since the 1950s, a reliable male contraceptive (that isn't a condom) has never made it to market. Although there has been considerable effort to develop male contraceptives over the past few decades, there has been limited success. This failure, in part, could be due to inadequate knowledge of spermatogenesis and male reproductive biology. There is also concern about the potential adverse effects that may manifest as a result of blocking spermatogenesis.

Now [a new breakthrough](#) could lead to a safe, effective and reversible male contraceptive pill, as a compound from traditional Chinese medicine has been shown in tests to render mice and monkeys temporarily infertile. In a new paper published by Nature Communications, The Lundquist Institute (TLI) Investigator Wei Yan, MD, Ph.D., and his research colleagues spell out an innovative strategy that has led to the discovery of a natural compound as a safe, effective, and reversible male contraceptive agent in pre-clinical animal models.

The compound in question is called [triptonide](#), which is extracted from a Chinese herb known as *Tripterygium wilfordii*. Triptonide is a diterpene triepoxide that is triptobenzene K in which the acylhydroquinone moiety has undergone oxidation to the corresponding triepoxyketone derivative. Traditionally the herb has been used to treat ailments like rheumatoid arthritis, but since the 1980s it's been reported that men taking the supplement over several months have displayed infertility. Obviously, that's an unfortunate side effect for treating arthritis, but it's exactly what you need in a male contraceptive.

In the study, the researchers trialed triptonide to test for safety and efficacy in animal models. The study involved mice and 12 healthy male adult cynomolgus monkeys. After a single daily



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dose of triptonide, the mice and monkeys demonstrated almost 100 percent sperm deformation between 3-4 and 5-6 weeks respectively, making them infertile. Fertility was restored once the dosing stopped after 4-6 weeks, suggesting the compound is reversible. Following analysis of the vital organs, no side-effects were noted in the animals, making triptonide differ from the other isolates from the herb in overall toxicity.

The team says that triptonide ticks all the right boxes. Not only is it effective and easy to take as a pill, but it's non-hormonal, so it shouldn't result in any unwanted mood or behavioral changes. No toxic side effects were noted either, and perhaps most importantly, the process is completely reversible – when the treatment is halted, fertility returns within four to six weeks.

“Thanks to decades of basic research, we were inspired to develop the idea that a compound that targets a protein critical for the last several steps of sperm assembly would lead to the production of non-functional sperm without causing severe depletion of testicular cells,” said lead investigator Dr. Wei Yan. “We are very excited that the new idea worked and that this compound appears to be an ideal male contraceptive. Our results using non-injurious studies on lower primates suggest triptonide will be an effective treatment for human males as well. Hopefully, we will be able to start human clinical trials soon to make the non-hormonal male contraceptive a [reality](#).”

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