

# Researchers find a treatment for deadly brain tumor

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New research at Rhode Island Hospital has identified a treatment in animal models for glioblastomas - deadly brain tumors which, once diagnosed, offer a poor prognosis and relatively short life expectancy. Using a synthetic form of a naturally-occurring hormone combined with chemotherapy, researchers were able to inhibit tumor growth and achieve a 25 percent cure rate. The study and their findings are published in the *Journal of Oncology*.

Led by Suzanne de la Monte, MD, MPH, of Rhode Island Hospital, researchers studied the effects of Thymosin Alpha 1 (Talpha1/thymalfasin), a synthetic form of the naturally occurring hormone Thymosin produced by the thymus gland. De la Monte, who is also a professor of neuroscience at The Warren Alpert Medical School of Brown University, says, "Our hypothesis was that the immune system basically needs a boost to kill the [cancer cells](#). We know that Thymosin is currently being used in Europe to treat cancer, so we set out to see what effect this could have on glioblastomas."

What the investigators found is that when Talpha1 was used alone, the [tumor](#) continued to eventually grow. When they combined the Talpha1 with a common [chemotherapeutic agent](#), there was a dramatic effect. De la Monte explains, "We looked at giving chemo plus Talpha1 as a sort of immune booster. What we found is that when you give Talpha1 and the chemo agent together, not only do you have a slower rate of [tumor growth](#) with cells being killed, but there have also been cures. We achieved a 25 percent cure rate in these animal models."

Co-investigator Jack Wands, MD, also a physician with University Medicine Foundation and a professor Alpert Medical School, says, "In this study we used a natural hormone that's been produced in the thymus gland, which by itself has no anti-tumor effect and in fact can be harmful in high doses. What's important in this study is that we have found with low to moderate doses in combination with a well-known chemotherapeutic agent, it has a striking ability to inhibit the growth of a glioblastoma in animal models."

The researchers went on to further investigate how the Talpha1 was achieving this response. What they discovered is that it sensitizes the tumor cells to the chemotherapeutic agent, giving the agent more of an impact upon the tumor than it would have on its own. De la Monte explains, "The thymic hormone is actually working to boost immune response and basically activates a killing of the tumor cells."

De la Monte says the next step is to bring this to a Phase I clinical trial. "You're talking about a disease where people are dead within months. There is no cure." Wands agrees and says, "Our pre-clinical studies have shown this striking effect and we believe the next step is to try this approach in patients with this devastating illness."

Provided by Lifespan

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