

Nosespray vaccine using aloe vera has exciting potential, researcher says

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Researchers at Texas A&M University are participating in developing a medicine that is worth sneezing about: a treatment for influenza that forms a jelly when sprayed into the nose.

Even though trial treatments are being used to treat bird flu in humans, technically termed the H5N1 virus, the vaccine has the potential for numerous other uses, such as for the common flu shot, says Dr. Ian Tizard, professor of pathobiology in the College of Veterinary Medicine & Biomedical Sciences.

The project is funded in part by a \$6 million grant from the National Institutes of Health awarded to DelSite Biotechnologies in conjunction with the Texas A&M teams. DelSite, an Irving-based company, has a facility in College Station.

Tizard says the method in which the vaccine gets delivered into the body is the key to the new treatment.

“We take Aloe vera leaves and put them through a series of complex extraction steps to produce a chemically pure powder, and then we combine the flu vaccine with it,” he explains.

“When this powder vaccine is puffed into the nose, it forms a jelly-like substance that clings to the inside of the nose and is absorbed into the body much more effectively. It stays longer and it has more time to do its work.”

Tizard says one or two puffs into the nose is all that's needed in most cases to get good results. "This powder form is more effective than a liquid spray because the nose tends to clear liquid sprays out, while the powder turns into a sticky gel and can be a much more potent vaccine.

"Also, in this powder form, it can be stored for a long period of time, which is great news if thousands or even millions of doses should be needed in the case of an emergency."

Aloe vera plants are native to North Africa but can be found worldwide. There are more than 100 species of Aloe vera.

Tizard, who has conducted research using Aloe vera plants for many years, says the special carbohydrate in Aloe vera leaves is perfect for forming the gel-like substance needed to act as a carrier for the vaccine.

Tests using the new vaccine have been successful in animal trials, Tizard says, and tests on humans will begin next year.

"The plan was to try this first as a vaccine for bird flu in humans because there was an immediate concern there, and there still is the possibility that a widespread bird flu epidemic could break out somewhere in the world," Tizard adds.

"But there is no reason to think this method of vaccine treatment would not work for many other diseases, too. We think it's an exciting breakthrough that has great potential."

Source: Texas A&M University

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