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New Ebola treatment successful in monkeys

WASHINGTON — THE GLOBE AND MAIL

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U.S. government researchers working to find ways to treat the highly deadly **Ebola virus** said on Sunday a new approach from AVI BioPharma Inc. saved monkeys after they were infected.

Two experimental treatments protected more than 60 per cent of monkeys infected with Ebola and all the monkeys infected with a related virus called Marburg, the team at the U.S. Army Medical Research Institute of Infectious Diseases in Fort Detrick, Md., reported.

AVI BioPharma already has a contract worth up to \$291-million from the **U.S. Department of Defence** to develop Ebola treatments.

Writing in the journal *Nature Medicine*, Sina Bavari and colleagues said the drugs tested are **antisense phosphorodiamidate morpholino oligomers, or PMOs**, called **AVI-6002** and **AVI-6003**.

"Taken together, these studies provide a major advancement in therapeutic development efforts for treatment of filovirus hemorrhagic fever," Dr. Bavari's team wrote.

The company has submitted investigational new drug applications for AVI-6002 and AVI-6003 to the U.S. Food and Drug Administration and may now test the drugs in people.

Ebola causes hemorrhagic fever that has resulted in dozens of frightening and deadly outbreaks across Africa and threatened endangered gorilla populations as well as people.

It is considered a possible bioterrorism weapon.

There is no treatment and no vaccine against Ebola, which passes via close personal contact and, depending on the strain, kills up to 90 per cent of victims.

But several studies in the past few months have shown that experimental "anti-sense" therapies can stop the virus.

In May a U.S. government team reported that small interfering RNAs or siRNAs could hold the virus at bay

for a week until the immune system could take over.

SiRNAs are little stretches of genetic material that can block the action of a specific gene, in this case preventing **Ebola** from replicating.

PMOs are a little different but also interfere with genes.

An hour after infection with Ebola, five of eight monkeys survived, while the remaining animal was untreated, Dr. Bavari's team found.

AVI-6003 worked best, protecting **90 per cent** or more of monkeys against **Ebola**, they said, and 100 per cent against Marburg.

Canada's Tekmira Pharmaceuticals Corp. has a separate contract to develop **anti-sense treatments** against **Ebola**.

Reuters



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