PCR test developed by BCM identifies elephant herpes virus

Baylor College of Medicine
HOUSTON -- (August 4, 2010) -- A sensitive real-time PCR test that specifically detects a deadly strain of herpes virus in elephants has been developed by researchers at Baylor College of Medicine. The findings appear in the current edition of the American Journal of Veterinary Research [1].
There are many strains of herpes viruses that affect elephants, but in particular the endotheliotropic herpes virus (EEHV1) is deadly. No symptoms are seen until it is too late, and treatment options are limited because little is known about the strain. This particular strain not only affects elephants in captivity, but also in the wild.

Quick diagnosis

"This new testing method allows us to not only diagnose before symptoms are seen, but to diagnose quickly which gives us time to begin treatment options", said Dr. Jeff Stanton, postdoctoral fellow in the department of molecular virology and microbiology [2] at BCM and co-author on the study.

Additional novel findings in the study include the discovery that some Asian elephants secrete the elephant herpes virus in their trunks and this is likely how the virus is transmitted, Stanton added. The implications from these findings suggest that Asian elephants apparently can survive infection with the elephant herpes virus and become persistently infected for life, not unlike herpes virus infections in humans and other animals. Why some young elephants succumb to lethal disease from this virus remains to be clarified.

Detecting virus

"By understanding how to detect the virus we are also learning how the virus is spread which will impact treatment and prevention," said Dr. Paul Ling [3], associate professor of molecular virology and microbiology at BCM and co-author of the study.

Others who took part in the study include: Drs. Jian-Chao Zong and Gary S. Hayward, both of the Viral Oncology Program, Johns Hopkins School of Medicine in Maryland; Erin Latimer, the Elephant Herpesvirus Laboratory Smithsonian National Zoological Park, Washington D.C.; Jie Tan, department of molecular virology and microbiology at BCM; and Dr. Alan Herron, Center for Comparative Medicine and the department of pathology at BCM.

Funding for the research is from the Houston Zoo Inc., Elephant Managers Association and the National Institutes of Health.

Read more about this groundbreaking collaboration [4].

SOURCE [5]

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