April 22, 2024

Excision BioTherapeutics Announces Oral Presentation of Preclinical HSV-1 Keratitis Data at CRISPRMED24 Conference on April 24, 2024

Treatment with EBT-104 resulted in over 90% reduction in viral shedding in HSV-1 Keratitis model

SAN FRANCISCO, April 22, 2024 (GLOBE NEWSWIRE) -- Excision BioTherapeutics, Inc. ("Excision", the "Company"), a clinical-stage biotechnology company developing CRISPR-based therapies to cure serious latent viral infectious diseases, today announced that it will deliver an oral presentation highlighting new data from its herpes simplex virus-1 keratitis (HSV-1 Keratitis) program, EBT-104, at CRISPRMED24, the CRISPR Medicine Conference, which is being held from April 23-25 in Copenhagen, Denmark.

Excision's EBT-104 is a CRISPR-based gene therapy that is being developed as a potential cure for HSV-1 Keratitis. EBT-104 utilizes a CRISPR/Cas gene editing system to inactivate the latent HSV-1 virus.

"This research marks a significant advancement in our understanding and treatment of HSV-1 keratitis and further demonstrates the broad potential of our unique gene editing platform to treat latent viral infections," said Daniel Dornbusch, Chief Executive Officer of Excision. "The exceptional *in vivo* efficacy demonstrated by our gene editing approach offers new hope for patients suffering from this debilitating condition. We look forward to sharing these new data from our EBT-104 program at the first CRISPRMED24 Conference."

Presentation details:

Title:	CRISPR/Cas9-mediated gene editing delivered by a single AAV vector inhibits viral reactivation of HSV-1 in a latent rabbit keratitis model
Session Title:	Pre-clinical/Clinical Trials II
Abstract:	81
Presenter:	Kevin Luk, Excision BioTherapeutics
Location:	Ballroom 3
Date/Time:	April 24, 2024, 16:45 to 18:25 pm (CEST)

To assess the efficacy of CRISPR/Cas9-mediated gene editing on HSV-1 *in vivo*, a single all-in-one AAV8(Y733F) and AAV9 vectors delivery of SaCas9 and paired gRNAs were employed in a latent rabbit model of HSV-1 keratitis via corneal scarification. This approach

led to a remarkable reduction of over 60% in viral shedding from the treated rabbit eyes. Building upon this success, the intravenous administration of all-in-one AAV8(Y733F) and AAV9 vectors expressing SaCas9 and paired gRNAs was explored in the same rabbit model. Impressively, 91.7% (11/12) of treated eyes exhibited no viral shedding. Even at low AAV dose (6E+12 VG/kg), we observed significant levels of AAV vector genomes in the trigeminal ganglia (TG) where the latent HSV-1 resides. Additionally, we detected reduced copies of HSV-1 viral DNA and latency-associated transcript (LAT) RNA in the trigeminal ganglia (TG) of rabbits treated with the AAV9-SaCas9 vector compared to the control group. These results demonstrate that the delivery of all-in-one AAV9-SaCas9 vectors can serve as an effective and safe one-time therapeutic strategy for treating HSV-1 keratitis.

About Herpes Simplex Keratitis

Herpes Simplex Keratitis (HSK) caused by the infection of herpes simplex virus type 1 (HSV-1) in the cornea is a major cause of blindness worldwide. Although current anti-HSV-1 therapies interfere with viral DNA replication, they do not eliminate HSV-1 reservoirs or prevent recurrence. CRISPR/Cas-mediated gene editing can potentially address the underlying causes of the disease by directly eliminating the latent HSV-1 reservoirs.

About Excision BioTherapeutics, Inc.
Excision BioTherapeutics, Inc. develops CRISPR-based medicines as potential cures for serious viral latent infectious diseases. The Company's proprietary, multiplexed gene editing platform unites CRISPR technologies with a novel gene editing approach which demonstrated the ability to stop viral replication. Excision's pipeline targets large, underserved markets including herpes simplex virus (HSV-1 keratitis), hepatitis B virus (HBV), and human immunodeficiency virus-1 (HIV-1). Excision's foundational technologies were developed in the laboratories of Dr. Kamel Khalili at Temple University and Dr. Jennifer Doudna at the University of California, Berkeley. For more information, please visit www.excision.bio.

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