

Humanized ApoE2 (hApoE2) knockin rat



MODEL	Humanized ApoE2 knockin rat
STRAIN	HsdSage:SD-ApoE2 ^{em1(hApoE2)Sage}
LOCATION	U.S.
AVAILABILITY	Live colony

CHARACTERISTICS/HUSBANDRY

- Background Strain: Sprague Dawley

ZYGOSITY GENOTYPE

- Homozygous

RESEARCH USE

- Alzheimer's disease
- Dopaminergic cell toxicity

DIET VALUE

- LabDiet #5R24 (RMH2500)

ORIGIN

The humanized ApoE2 (hApoE2) knockin rat model was originally created at SAGE Labs, Inc. in St. Louis, MO. The animal inventory was acquired by Envigo in 2019 and then by Inotiv in 2021. The line continues to be maintained through the original SAGE Labs animal inventory and is distributed out of the Boyertown, PA facility.

DESCRIPTION

Human apolipoprotein E (ApoE) is primarily present in the liver, kidney, and spleen, where it plays a critical role in cholesterol and lipid transport and metabolism. In the central nervous system, ApoE is synthesized and secreted by astrocytes, microglia, and neurons where it is involved in injury repair. Human ApoE (hApoE) exists as three major isoforms, ApoE2, ApoE3 and ApoE4, which are the products of three alleles at a single gene locus on the long arm of chromosome 19 in the human. hApoE2 is thought to be protective against Alzheimer's disease, hApoE3 seems to be wild type or neutral, and hApoE4 appears to yield a higher incidence of Alzheimer's disease. In this hApoE2 knockin rat, the rat endogenous ApoE codon region is replaced with the corresponding part of human ApoE2.