ENVIGO

Genetically engineered models (GEMS)

BSEP knockout rat

Model	BSEP knockout rat
Strain	HsdSage: SD-*Tg(Rosa26Chr2)*^{1Sage}
Location	U.S.
Availability	Cryopreserved

Characteristics/husbandry

+ Biallelic 8bp deletion within the Abcb11 gene
+ Homozygous Knockouts exhibit complete loss of protein via Western blot
+ Background strain : Sprague Dawley

Zygosity genotype

+ Cryopreserved as heterozygous embryos

Research use

+ Cholestasis
+ Drug-induced cholestasis (DIC)
+ Transporter assays
+ Drug-drug interactions

Origin

The BSEP KO rat model was originally created at SAGE Labs, Inc. in St. Louis, MO and distributed out of the Boyertown, PA facility. The line continues to be maintained through the original SAGE Labs animal inventory acquired by Envigo.

Description

Abcb11 encodes the bile salt export pump (BSEP) found in the liver. BSEP is critical in the secretion of bile by releasing bile salts from the liver, and mutations in BSEP have been associated with progressive familial intrahepatic cholestasis in humans.

Drug induced liver injury is an important clinical issue, and may result from inhibition of BSEP. Chemical inhibition of BSEP can lead to decreased bile flow and buildup of bile salts in hepatocytes, resulting in toxicity. Understanding the potential of BSEP inhibition by drug candidates is thus of significant importance for drug discovery and development. This model is useful in studying impairment of bile secretion.

Figure 1: Western blot using tissue isolated from both wild type and BSEP homozygous knockout rats.

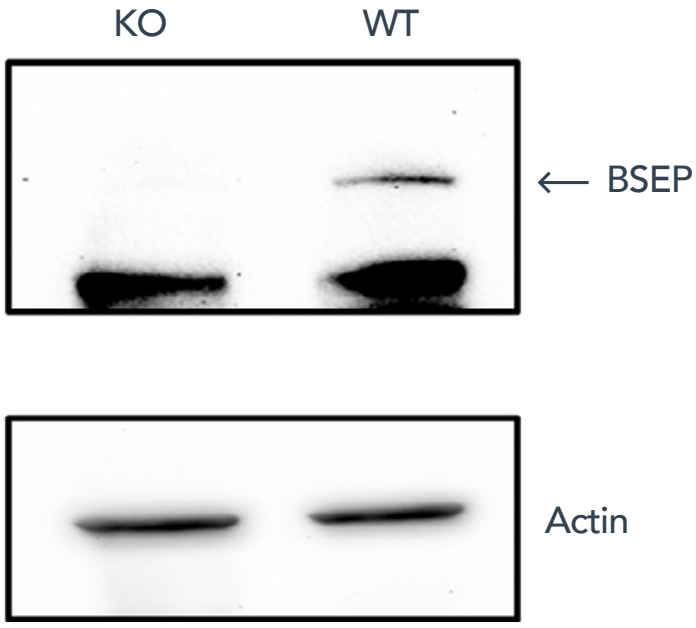
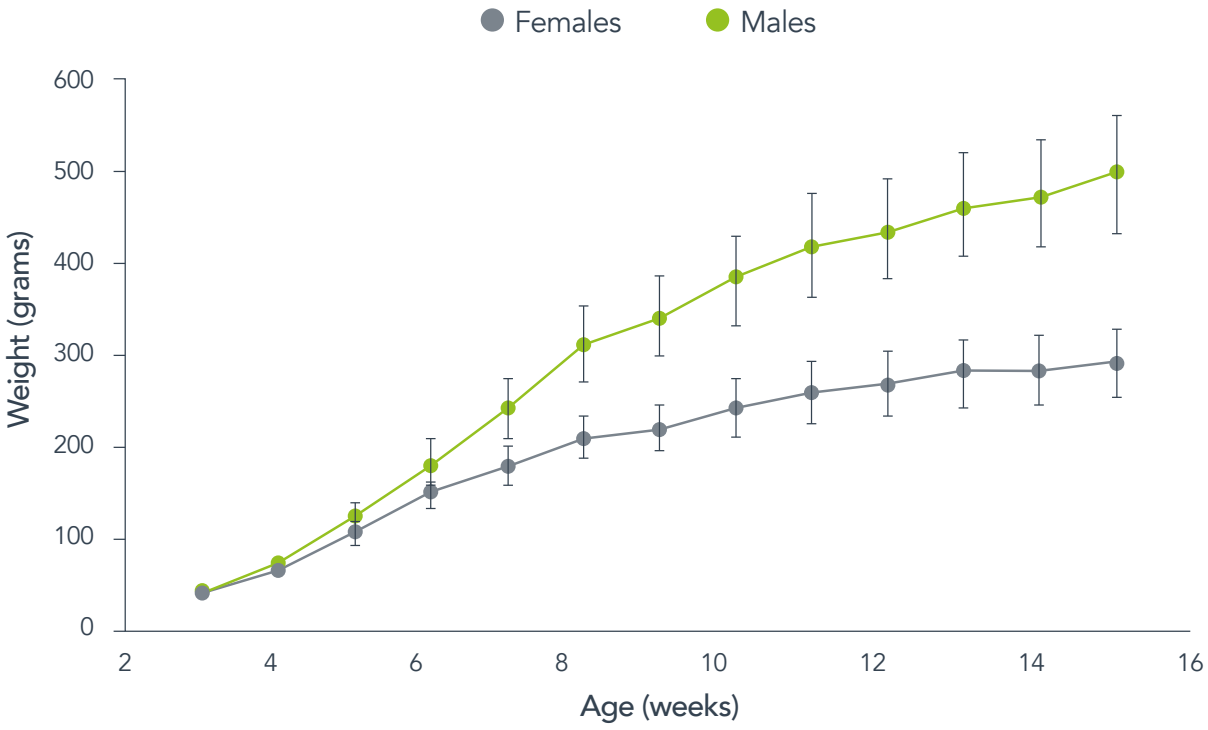


Figure 2. Weight and age comparison chart



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