ENVIGO

Genetically engineered models (GEMS)

Cox1 knockout rat

Model	Cox1 knockout rat
Strain	HsdSage:SD- Cox1^{tm1Sage}
Location	U.S.
Availability	Cryopreserved

Characteristics/husbandry

+ Homozygous knockout rats exhibit complete loss of COX1 protein via Western blot
+ Background Strain: Sprague Dawley

Zygosity genotype

+ Cryopreserved as heterozygous embryos

Research use

+ Rheumatoid arthritis
+ Inflammation/Autoimmune disorders
+ Asthma
+ Multiple sclerosis
+ Thrombosis/Cardiac fibrosis
+ Vascular defects
+ Platelet defects/Platelet aggregation
+ Renal dysplasia
+ Crohn's disease
+ Colitis

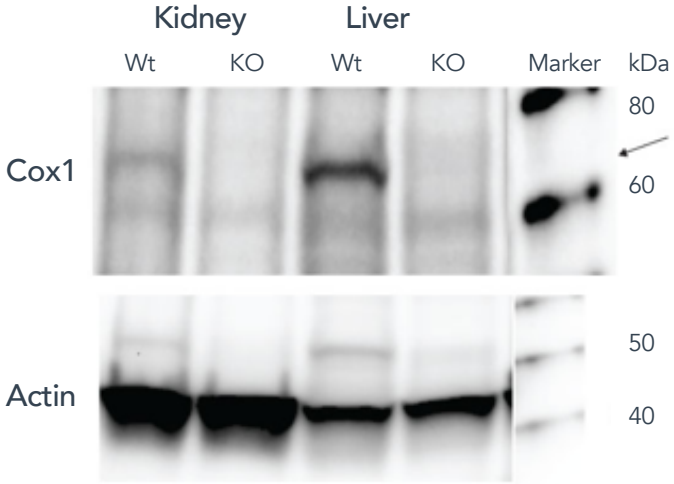
Origin

The Cox1 knockout 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

Cyclooxygenase (COX), also known as prostaglandin synthase (PHS) and prostaglandin endoperoxide synthetase (PES), is an enzyme that is responsible for formation of important biological mediators called prostanoids, including prostaglandins, prostacyclin, and thromboxane. Rats deficient in COX1 can be used for studying inflammation, thrombosis, vascular defects, platelet defects, and alterations in platelet aggregation.

Figure 1: Homozygous knockout rats exhibit complete loss of COX1 protein. Kidney and liver lysates were isolated from wild type SD (WT) and COX1 homozygous knockout rats. Rat COX1 protein is ~70 kDa. Actin (42 kDa) was used as loading control. Anti-COX1 antibody was from Upstate (06-970).



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