

Enpp1-KO

品系全名	C57BL/6Smoc- <i>Enpp1</i> ^{em2Smoc}
目录号	NM-KO-200618
品系状态	活体

基因信息

基因名 Enpp1	基因曾用名	Pca; ttw; twy; M6S1; NPP1; Npps; PC-1; Ly-41; Pca-1; PdnP1; C76301; CD203c; E-NPP1; E-NPP 1; A1428932; 4833416E15Rik
	NCBI ID	18605
	MGI ID	97370
	Ensembl ID	ENSMUSG00000037370
	人类同源基因	ENPP1

品系描述

敲除Enpp1基因exon 2, 建立Enpp1基因敲除小鼠模型。

应用领域: NAD代谢和核黄素代谢等研究相关, 科尔病、低磷性佝偻病等疾病研究相关; 脊柱韧带骨化模型

*使用本品系发表的文献需注明: Enpp1-KO mice (Cat. NO. NM-KO-200618) were purchased from Shanghai Model Organisms Center, Inc..

疾病预测

婴儿动脉钙化 arterial calcification of infancy	近似模型的表型	MGI:5607167
	参考文献	Li Q, et al., Spontaneous asj-2J mutant mouse as a model for generalized arterial calcification of infancy: a large deletion/插入 mutation in the Enpp1 gene. PLoS One. 2014;9(12):e113542
脊柱后纵韧带骨化 ossification of the posterior longitudinal ligament of spine	近似模型的表型	MGI:6402953
	参考文献	Takabayashi S, et al., A new Enpp1 allele, Enpp1(ttw-Ham), identified in an ICR closed colony. Exp Anim. 2014;63:193-204

脊柱关节病 Spondyloarthropathy	近似模型的表型	MGI:3606141
	参考文献	Hosoda Y, et al., A new breed of mouse showing multiple osteochondral lesions--twy mouse. Ryumachi. 1981;21 Suppl:157-64
婴儿动脉钙化 Arterial Calcification Of Infancy	近似模型的表型	MGI:5607167
	参考文献	Li Q, et al., Spontaneous asj-2J mutant mouse as a model for generalized arterial calcification of infancy: a large deletion/插入 mutation in the Enpp1 gene. PLoS One. 2014;9(12):e113542
脊柱后纵韧带骨化 Ossification Of The Posterior Longitudinal Ligament Of Spine	近似模型的表型	MGI:6402953
	参考文献	Takabayashi S, et al., A new Enpp1 allele, Enpp1(ttw-Ham), identified in an ICR closed colony. Exp Anim. 2014;63:193-204

验证数据

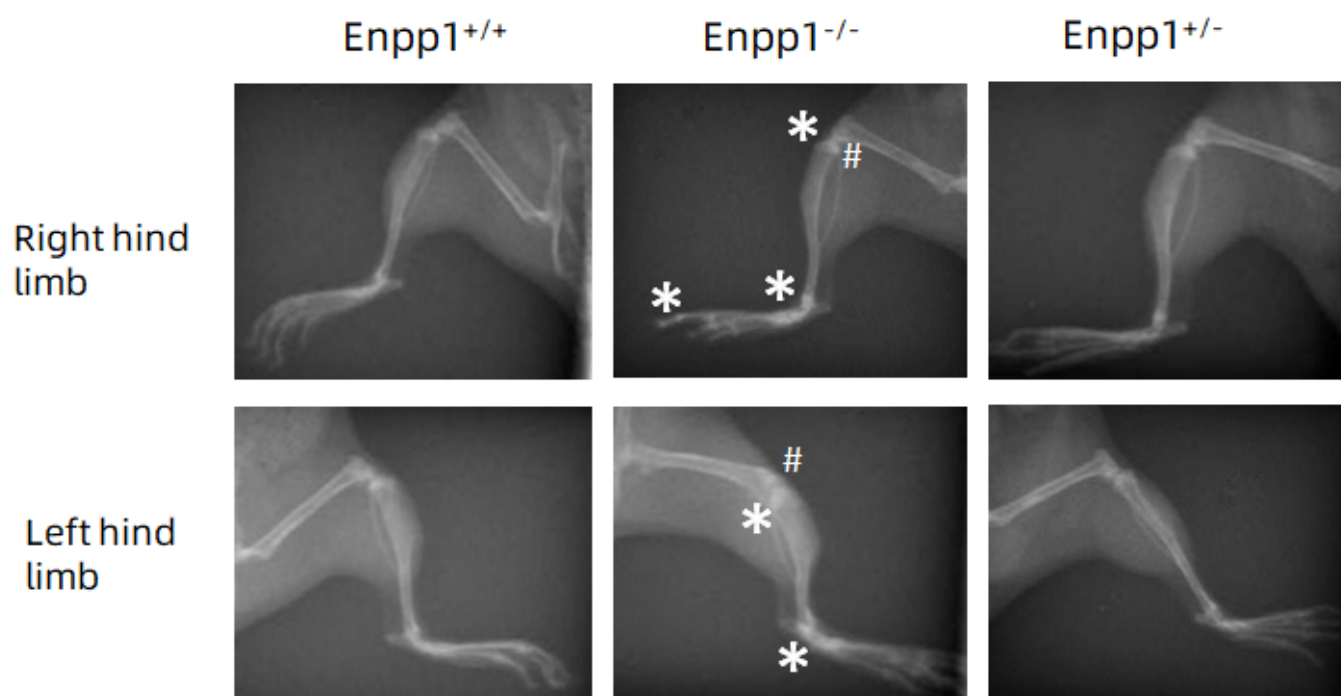


图1 X光结果显示Enpp1^{-/-}小鼠（30周龄雄鼠）表现出明显的骨密度升高，钙化和骨融合。

*: 与Enpp1^{+/+}小鼠相比，Enpp1^{-/-}小鼠后肢关节处骨密度升高，钙化明显，Enpp1^{+/+}小鼠骨密度无异常。

#: 与Enpp1^{+/+}小鼠相比，Enpp1^{-/-}小鼠后肢关节处出现骨融合，Enpp1^{+/+}小鼠无异常。

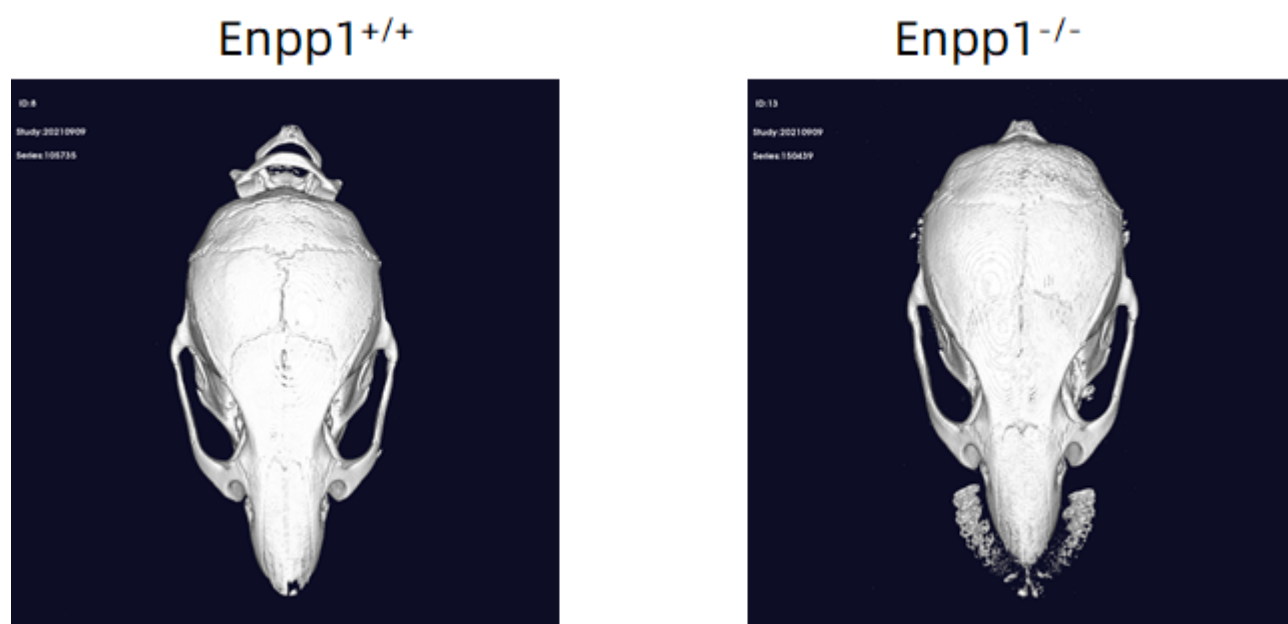


图2 CT结果显示 $Enpp1^{-/-}$ 小鼠触须真皮鞘发生钙化现象。

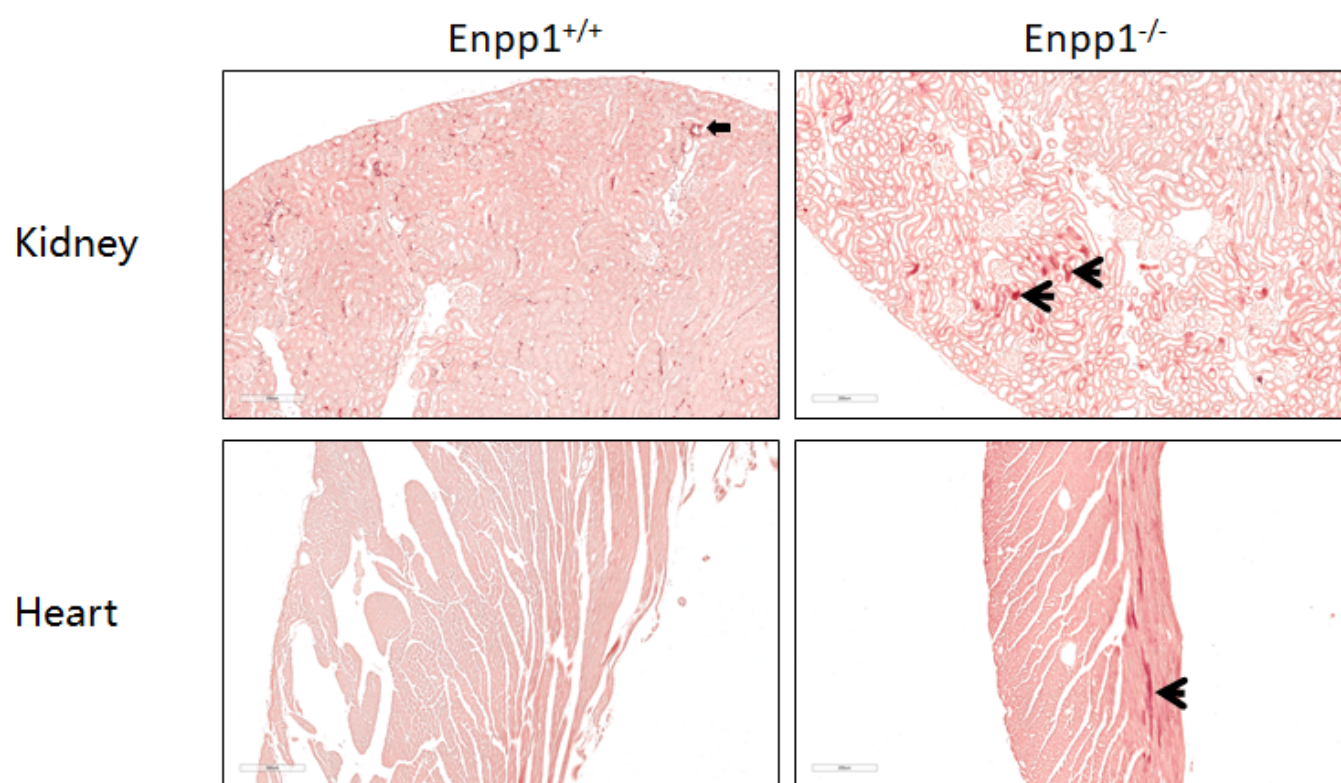


图3 茜素红(Alizarin red)染色结果显示 $Enpp1^{-/-}$ 小鼠表现出明显的肾脏异位钙化和心脏异位钙化。

◀：代表为钙沉积； ◀：代表血细胞