

Anpep-KO

Strain Name: C57BL/6JGpt-Anpep^{em8Cd19179}/Gpt

Strain Type: Knock-out

Strain Number: T027669

Background: C57BL/6JGpt

Description

Alanyl membrane aminopeptidase (ANPEP) encodes a membrane-bound zinc-dependent protease termed aminopeptidase N (APN; aka neutral aminopeptidase, CD13) that belongs to a group of widely expressed ectopeptidases [1]. CD13 is expressed on myeloid cells, pericytes, fibroblasts, epithelial and endothelial cells, as well as on tumor cells, and stem cells [2-6].

GemPharmatech constructed an Anpep-KO mouse model on the background of C57BL/6JGpt. Anpep-KO homozygous mice had no ANPEP protein expression in the liver and kidney.

Strategy

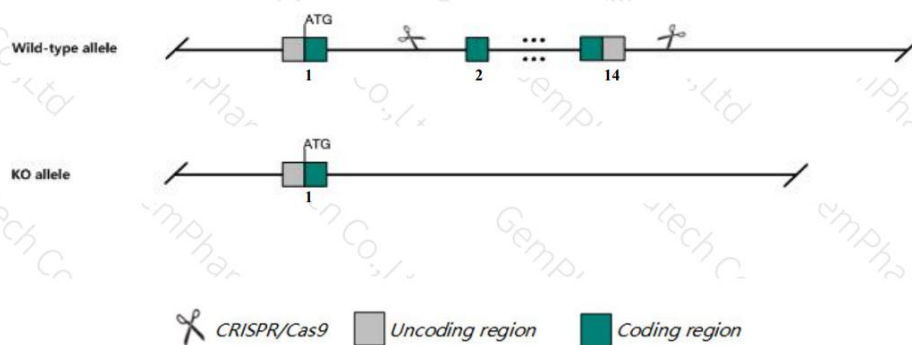


Fig 1. Schematic diagram of C57BL/6JGpt-Anpep-KO model strategy.

Applications

1. Research related to deficiency of ANPEP (CD13) protein.

Data support

1. Determination of CD13 protein expression

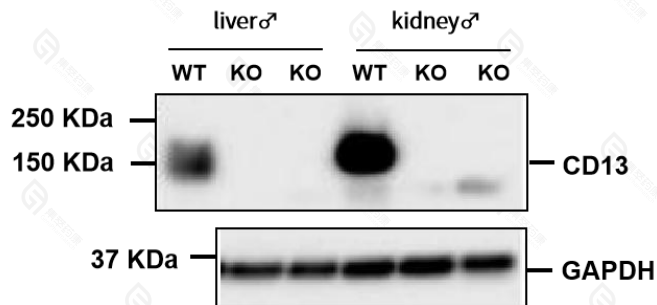


Fig 2. Protein expression of CD13 in liver and kidney.

Protein expression of ANPEP (CD13) in liver and kidney was determined by Western Blot using specific antibody (Abcam, ab108310). WT: C57BL/6JGpt wildtype mice, and KO: Anpep-KO homozygous mice. (Data source: Abcam collaborative verification).

References

1. Carl-McGrath, Stacy, et al. "Ectopeptidases in tumour biology: a review." *Histology and histopathology* (2006).
2. Lai, Amy, et al. "Paracrine regulation of fibroblast aminopeptidase N/CD13 expression by keratinocyte - releasable stratifin." *Journal of Cellular Physiology* 226.12 (2011): 3114-3120.
3. Calloni, Raquel, et al. "Reviewing and updating the major molecular markers for stem cells." *Stem cells and development* 22.9 (2013): 1455-1476.
4. Lai, Amy, Abdi Ghaffari, and Aziz Ghahary. "Inhibitory effect of anti-aminopeptidase N/CD13 antibodies on fibroblast migration." *Molecular and cellular biochemistry* 343 (2010): 191-199.
5. Alliot, F., et al. "Pericytes and periendothelial cells of brain parenchyma vessels co - express aminopeptidase N, aminopeptidase A, and nestin." *Journal of neuroscience research* 58.3 (1999): 367-378.
6. Dondossola, Eleonora, et al. "CD13-positive bone marrow-derived myeloid cells promote angiogenesis, tumor growth, and metastasis." *Proceedings of the National Academy of Sciences* 110.51 (2013): 20717-20722.