

Clu-KO

Strain Name: C57BL/6JGpt-*Clu*^{em13Cd7705}/Gpt

Strain Type: Knock-out

Strain Number: T014419

Background: C57BL/6JGpt

Description

Clusterin (CLU) is an omnipresent conserved glycoprotein commonly secreted by cells that has been described as a stress-activated, ATP-independent molecular chaperone involved in a wide variety of pathological and physiological processes [1,2]. An important role for clusterin has been clearly demonstrated in processes as dissimilar as the inhibition of complement activation, the regulation of apoptosis and the removal of misfolded proteins from the extracellular space [3-4]. CLU is considered to be a regulator of carcinogenesis [5]. Elevated levels of CLU are observed in a variety of cancers [6].

GemPharmatech constructed a Clu-KO mouse model on the background of C57BL/6JGpt. Clu-KO homozygous mice had no Clu protein expression in the adrenal gland, spleen and testis. Therefore, Clu-KO strain is an ideal model for researching on deficiency of Clu protein.

Strategy

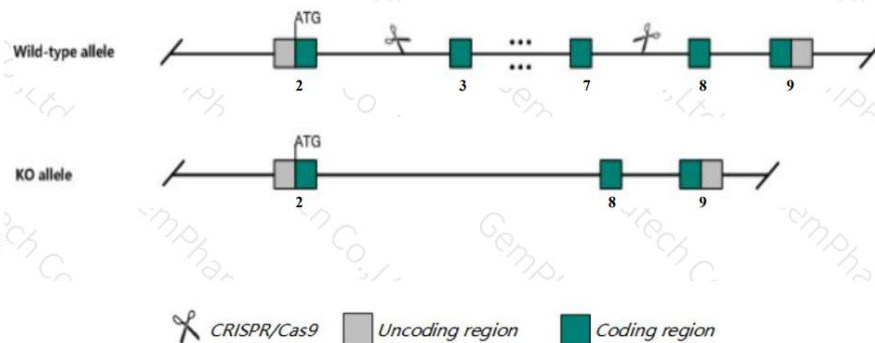


Fig.1 Schematic diagram of C57BL/6JGpt-Clu-KO model strategy.

Applications

1. Research related to deficiency of Clu protein.

Data support

1. Determination of Clu protein expression

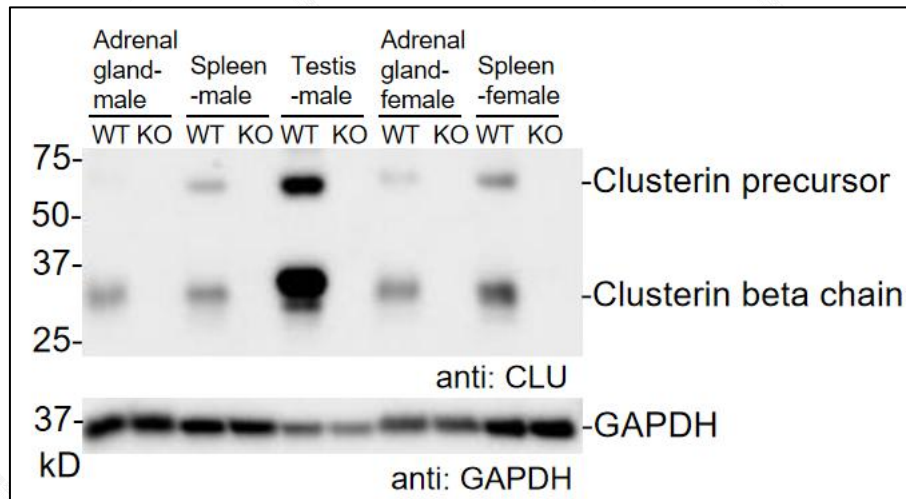


Fig.2 Protein expression of Clu in mouse adrenal gland, spleen and testis.

Protein expression of Clu in adrenal gland, spleen and testis was determined by Western Blot using specific antibody (Abcam, ab184099). WT: C57BL/6JGpt wildtype mice and KO: Clu-KO homozygous mice. (Data source: Abcam collaborative verification).

2. IHC analysis of Clu

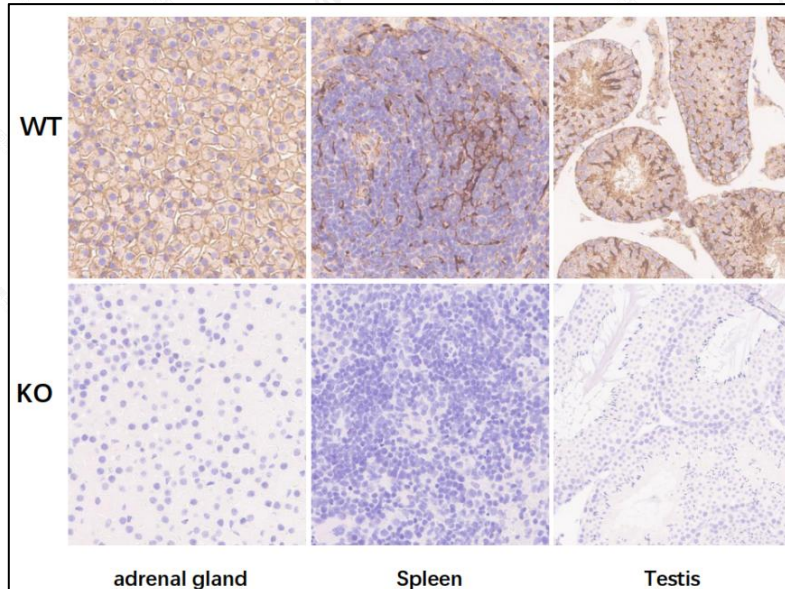


Fig.3 Representative IHC results of Clu in mouse adrenal gland, spleen and testis.

IHC analysis of Clu in adrenal gland, spleen and testis using specific antibody (Abcam, ab184099). WT: C57BL/6JGpt wildtype mice and KO: Clu-KO homozygous mice. (Data source: Abcam collaborative verification).

References

1. Wilson, Mark R., and Amina Zoubeydi. "Clusterin as a therapeutic target." *Expert opinion on therapeutic targets* 21.2 (2017): 201-213.
2. Rodríguez-Rivera, Carmen, et al. "Clusterin: Always protecting. Synthesis, function and potential issues." *Biomedicine & Pharmacotherapy* 134 (2021): 111174.
3. Wyatt, Amy R., et al. "Extracellular chaperones and proteostasis." *Annual review of biochemistry* 82 (2013): 295-322.
4. Tschopp, J., and L. E. French. "Clusterin: modulation of complement function." *Clinical and experimental immunology* 97.Suppl 2 (1994): 11.
5. Praharaj, Prakash Priyadarshi, et al. "Clusterin as modulator of carcinogenesis: A potential avenue for targeted cancer therapy." *Biochimica et Biophysica Acta (BBA)-Reviews on Cancer* 1875.2 (2021): 188500.
6. Beheshti Namdar, Ali, et al. "Circulating Clusterin Levels and Cancer Risk: A Systematic Review and Meta-Analysis." *Cancer Control* 29 (2022): 10732748211038437.