

Tlr2-KO

Strain Name: C57BL/6JGpt-*Tlr2*^{em1Cd4034in1}/Gpt

Strain Type: Knock-out

Strain ID: T006733

Background: C57BL/6JGpt

Description

TLR2 (Toll-like receptor 2) serves as a crucial pattern recognition receptor (PRR) in the innate immune system [1]. The primary function of TLR2 is to form heterodimers with either TLR1 or TLR6, recognizing a broad spectrum of pathogen-associated molecular patterns (PAMPs) and damage-associated molecular patterns (DAMPs) [2]. This interaction triggers the MyD88-dependent signaling cascade, activating NF-κB pathway and inducing pro-inflammatory cytokines (TNF-α, IL-6) to coordinate inflammatory and antimicrobial responses [3]. Deficiency of the TLR2 gene is associated with various human diseases, including chronic inflammatory disorders [4], autoimmune diseases [5], and increased susceptibility to bacterial/fungal infections [6]. TLR2 is highly expressed in Immune cells and barrier tissues [7], with additional significant expression in the liver [8] and lung [9].

GemPharmatech constructed a Tlr2-KO mouse model on the background of C57BL/6JGpt. Tlr2-KO homozygous mice had no TLR2 protein expression in the liver and lung.

Strategy



Fig 1. Schematic diagram of Tlr2-KO model strategy.

Applications

1. Research related to deficiency of TLR2 protein.

Data support

1. Determination of TLR2 protein expression

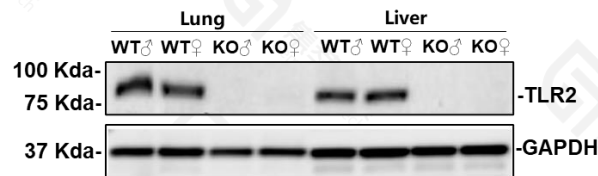


Fig.1 Protein expression of TLR2 in lung and liver.

Protein expression of TLR2 in lung and liver was determined by Western Blot using specific antibody (Abcam, ab209216). WT: C57BL/6JGpt wildtype mice, KO: Tlr2-KO homozygous mice. (Data source: Abcam collaborative verification).

2. IHC analysis of TLR2

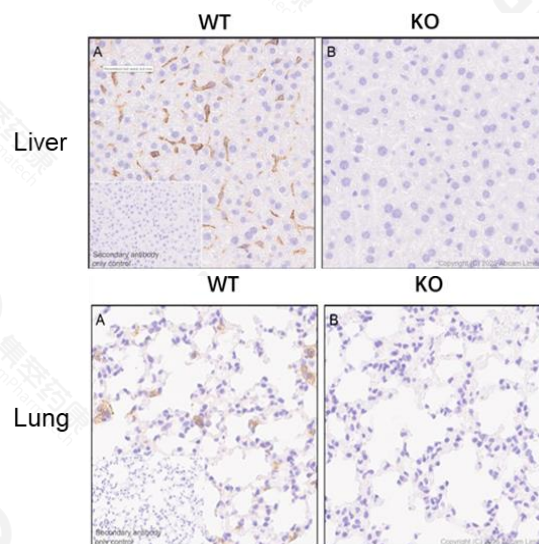


Fig.2 Representative IHC results of TLR2 in mouse liver and lung.

IHC analysis of TLR2 in liver and lung using specific antibody (Abcam, ab209216). WT: C57BL/6JGpt wildtype mice, KO: Tlr2-KO homozygous mice. (Data source: Abcam collaborative verification).

Reference

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4. Kim, Sunhwa, and Michael Karin. "Role of TLR2-dependent inflammation in metastatic progression." *Annals of the New York Academy of Sciences* 1217.1 (2011): 191-206.
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