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(54) Title: A CD47 MUTANT AND ITS APPLICATIONS

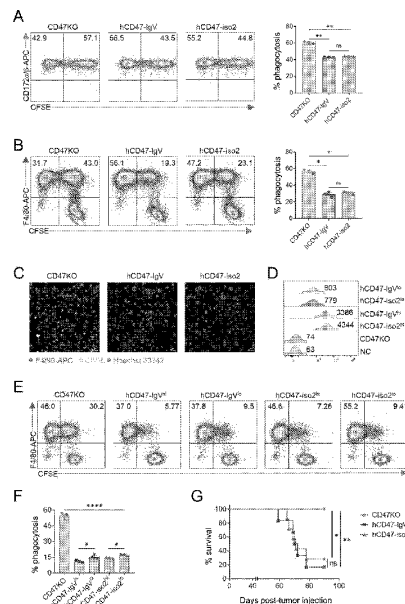


Fig. 5

(57) Abstract: Provided is a CD47 mutant and its applications, wherein the CD47 mutant comprises a partial amino acid sequence of CD47 and an amino acid sequence of a glycosylphosphatidylinositol (GPI) attachment signal. The CD47 mutant is obtained by removing sequences (transmembrane and intracellular regions) potentially involved in transduction of signals with negative effects such as inhibiting cell survival, suppressing blood flow and angiogenesis, as well as promoting tissue injury. Simultaneously, beneficial functional segment (extracellular IgV domain) of the CD47 protein sequence, which is involved in inhibiting phagocytosis and cytotoxic activity of myeloid cells, is fused with GPI membrane anchor attachment signal sequence from human decay-accelerating factor (DAF) protein. The obtained CD47 mutant can protect cell and organ grafts from transplant rejection mediated by myeloid cells and other SIRP α -positive immune cells, with efficacy comparable to wild-type CD47, while eliminating negative effects of wild-type CD47.

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