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Anti-LIF Picoband Antibody

Catalog # ABO12945

Product Information

Application	WB, E
Primary Accession	P09056
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for LIF detection. Tested with WB, ELISA(Cap) in Human;Mouse;Rat.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	16878
Other Names	Leukemia inhibitory factor, LIF, Differentiation-stimulating factor, D factor, Lif
Calculated MW	22287
Application Details	Western blot, 0.1-0.5 □g/ml ELISA(Cap), 0.1-0.5 □g/ml
Subcellular Localization	Secreted.
Source	Eukaryota
Contents	Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na_2HPO_4, 0.05mg NaN_3.
Immunogen	E. coli-derived mouse LIF recombinant protein (Position: S24-F203).
Cross Reactivity	No cross reactivity with other proteins.
Storage	At -20˚C; for one year. After r˚Constitution, at 4˚C; for one month. It˚Can also be aliquotted and stored frozen at -20˚C; for a longer time. Avoid repeated freezing and thawing.

Protein Information

Name	Lif {ECO:0000312|MGI:MGI:96787}
Function	Functions as a cytokine that binds to the LIF receptor complex (By similarity). The LIF receptor complex indeed consists of two signaling receptor subunits

IL6ST/gp130 and LIFR that transduce the signal into the cell (By similarity). Functionally, regulates cell self-renewal, differentiation and survival of embryonic stem cells (EScs) and is crucial for embryonic implantation (PubMed:1522892, PubMed:16452727, PubMed:26775702, PubMed:3127201, PubMed:3143916). Mechanistically, ligand binding to LIFR, induces heterodimerization with IL6ST/gp130 activating JAK tyrosine kinases (JAK1 or JAK2 and to lesser extent TYK2) bound to their intracellular domains (PubMed:8921810). These kinases subsequently phosphorylate IL6ST/gp130 and LIFR (PubMed:8921810). The tyrosine phosphorylated signaling receptors serve in turn as docking sites for recruitment and activation of signal transducers and activators of transcription (STAT3 and to lesser extent STAT1) (PubMed:8921810). In parallel to the activation of the STAT3-pathway, the binding of LIF to the LIF receptor complex leads to the activation of the mitogen-activated protein kinase (MAPK) and the phosphatidylinositol 3-kinase (PI(3)K) pathways (PubMed:15328362, PubMed:9545305). Tyrosine phosphorylation of the p85 subunit of PI(3)K by JAK1 leads to activation of the serine/ threonine kinase AKT (protein kinase B) (PubMed:9545305). PI(3)K-dependent signaling is required for efficient self-renewal of murine ES cells, and regulation of ERK activity is functionally important in this response (PubMed:15328362). Moreover, induces tyrosine phosphorylation of PTPN11, that associates with IL6ST/gp130-LIFR, which in turn recruits the p85 regulatory subunit of PI(3)K protein kinase, promoting PI3K-AKT activation, and (in many systems) GRB2-RAS-MAPK signaling (By similarity).

Cellular Location Secreted {ECO:0000250|UniProtKB:P15018}.

Background

LIF is a pleiotropic cytokine produced at the maternal-fetal interface which has been shown to play an essential role in implantation in mice. This gene is mapped to 22q11-q12.2, between the Philadelphia translocation BCR gene and the breakpoint of the translocation in cell line GM2324 at 22q12.2. LIF is produced in high amounts by the human endometrium and the trophoblast itself, and LIF receptors are present on cytotrophoblast cells. LIF could, thus, play a role in modulating HLA-G production and immune tolerance at the maternal-fetal interface.

Images

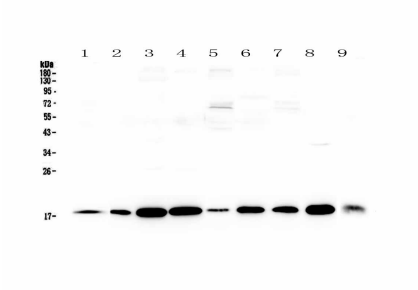

Figure 1. Western blot analysis of LIF using anti-LIF antibody (ABO12945).