IL-17RB Protein, Rhesus Macaque (HEK293, Fc)

Cat. No.:	HY-P77405
Synonyms:	Interleukin-17 receptor B; IL-17RB; IL-17Rh1; IL-17B receptor; CRL4; EVI27
Species:	Rhesus Macaque
Source:	HEK293
Accession:	G7ML21 (M1-G288)
Gene ID:	693671
Molecular Weight:	Approximately 57 kDa.

PROPERTIES

Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 μm filtered solution of PBS, pH 7.4. Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background

IL-17RB (Interleukin 17 receptor B), a 47.9 kDa transmembrane protein (462 aa) that belongs to the IL-17 receptor family, and can be activated by IL-17B. It has been proved to be involved in inflammatory diseases and cancers. IL-17RB is expressed in various endocrine tissues and in epithelial cells in different organs such as kidney and liver and mucosal tissues [1][2][3].

The amino acid sequence of human IL-17RB protein has low homology with mouse IL-17B protein.

IL-17RB has a SEFIR cytoplasmic domain implicated in homotypic dimerization and recruitment of signaling proteins (shared with IL-17RA) and a TRAF6-binding domain (not found in IL-17RA). IL-17B shares its receptor IL-17RB with IL-17E (also known as IL-25) that binds to the heterodimeric IL-17RA/IL-17RB complex. The binding affinity (KD) of IL-17B for IL-17RB is around 30-fold lower than that of IL-17E. It does not bind IL-17, IL-17C and IL-17F. Interleukin-17 (IL-17) plays a pivotal role in inflammatory diseases and cancers. IL-17 acts its role through IL-17 receptor (IL-17R). The IL-17R family are single transmembrane proteins that include the subtype receptors of IL-17RA to IL-17RE. Upon ligand binding, IL-17RB activates the canonical NK-κB pathway as well as ERK, JNK, and p38. Moreover, TRAF6 binds to IL-17RB independently of its ligand and participates in IL-17RB-dependent NF-κB activation[1][2][3].

It is reported that IL-17RB expression is significantly increased in gastric cancer tissues. Moreover, overexpression of IL-17RB is strongly associated with metastasis and inversely correlates with progression-free survival in pancreatic cancer. IL-17RB

can enhance thyroid cancer cell invasion and metastasis via ERK1/2 pathway-mediated MMP-9 expression[1]. By using a rodent ortholog of IL-17BR as a probe, IL-17BR message was found to be drastically up-regulated during intestinal inflammation elicited by indomethacin treatment in rats[2]. IL-17RB expression in human innate type 2 lymphocytes, natural killer T (NKT) cells, and Th2 cells suggests a potential role in immune cells[3].

REFERENCES

[1]. Lei Ren, et al. IL-17RB enhances thyroid cancer cell invasion and metastasis via ERK1/2 pathway-mediated MMP-9 expression. Mol Immunol. 2017 Oct;90:126-135.

[2]. Y Shi, et al. A novel cytokine receptor-ligand pair. Identification, molecular characterization, and in vivo immunomodulatory activity. J Biol Chem. 2000 Jun 23;275(25):19167-76.

[3]. Jérémy Bastid, et al. The Emerging Role of the IL-17B/IL-17RB Pathway in Cancer. Front Immunol. 2020 Apr 21;11:718.

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