IL-17RC Protein, Human (434a.a, HEK293, Fc)

Cat. No.:	HY-P72580
Synonyms:	Interleukin-17 receptor C; IL-17 receptor C; IL17RC; IL17Rhom; IL-17RL; ZcytoR14
Species:	Human
Source:	HEK293
Accession:	Q8NAC3-3 (L21-A454)
Gene ID:	84818
Molecular Weight:	90-120 kDa

PROPERTIES

AA Sequence	L E R L V G P Q D A T H C S P G L S C R L W D S D I L C L P G D I V P A P G P V L A P T H L Q T E L V L R C Q K E T D C D L C L R V A V H L A V H G H W E E P E D E E K F G G A A D S G V E E P R N A S L Q A Q V V L S F Q A Y P T A R C V L L E V Q V P A A L V Q F G Q S V G S V V Y D C F E A A L G S E V R I W S Y T Q P R Y E K E L N H T Q Q L P A L P W L N V S A D G D N V H L V L N V S E E Q H F G L S L Y W N Q V Q G P P K P R W H K N L T G P Q I I T L N H T D L V P C L C I Q V W P L E P D S V R T N I C P F R E D P R A H Q N L W Q A A R L Q L L T L Q S W L L D A P C S L P A E A A L C W R A P G G D P C Q P L V P P L S W E N V T V D K V L E F P L L K G H P N L C V Q V N S S E K L Q L Q E C L W A D S L G P L K D D V L L L E T R G P Q D N R S L C A L E P S G C T S L P S K A S T R A A R L G E Y L L Q D L Q S G Q C L Q L W D D D L G A L W A C P M D K Y I H K R W A
Biological Activity	Measured by its binding ability in a functional ELISA. Immobilized Human IL17 at 2 μg/mL (100 μl/well) can bind Human IL17RC hFc, the EC_{50} of Human IL17RC hFc is 200-800 ng/mL.
Appearance	Solution
Formulation	Supplied as a 0.2 μm filtered solution of PBS, pH 7.4.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	N/A.
Storage & Stability	Stored at -80°C for 1 year. It is stable at -20°C for 3 months after opening. It is recommended to freeze aliquots at -80°C for extended storage. Avoid repeated freeze-thaw cycles.
Shipping	Shipping with dry ice

DESCRIPTION

Background

IL-17RC, is the receptor for IL17A and IL17F homodimers as part of a heterodimeric complex with IL17RA. IL-17 cytokine family members IL-17A and IL-17F mediate inflammatory activities via the IL-17R complex, comprised of the IL-17RA and IL-17RC subunits. The expression profile and tissue distribution of IL-17RC suggest that the gene regulation of IL-17RC differs considerably from IL-17RA. Specifically, epithelial cells of the prostate, kidney, and joints express high levels of IL-17RC mRNA, while low levels of expression are detected in the hematopoietic cell compartments[1].

The amino acid sequence of human IL-17RC protein has low homology with mouse IL-17C protein. The differences between the human and murine systems extend to IL-17A and IL-17F cytokine binding affinities. hIL-17RA binds preferentially to IL-17A and has a relatively low binding affinity to IL-17F. In contrast, hIL-17RC binds IL-17A and IL-17F with the same affinity. In the murine system, the inverse is true: mIL-17RA binds IL-17A and IL-17F with equal affinities, but mIL-17RC binds preferentially to IL-17F. Therefore, in both humans and mice, IL-17RC appears to serve as a contact point for IL-17F[1].

The IL-17R subfamily includes IL-17RA, IL-17RB, IL-17RC, IL-17RD, and IL-17RE. The best-characterized IL-17R molecules are the IL-17RA and IL-17RC subunits, in part because of their interaction to form a receptor complex capable specific for IL-17A and IL-17F. IL-17RA co-immunoprecipitates with IL-17RC in a ligand-dependent manner, raising the possibility that the ligand-dependent loss of FRET between IL-17RA subunits results from oligomerization with IL-17RC. Consistent with this, IL-17RC also forms large, multimeric complexes consistent with oligomerization with IL-17RA. IL-17RC forms heterodimers with IL-17RA to mediate IL-17A and IL-17F signals in mouse stromal cells and human gastric adenocarcinoma AGS cells and synoviocytes. Although The IL-17RA and IL-17RC subunits operate in concert to mediate IL-17 signaling, IL-17RC possesses a number of features that differentiate it from IL-17RA. IL-17RC bears only 22% sequence homology with IL-17RA. Alignment against the human genome indicates that the il17rc gene contains 19 exons on chromosome 3 and spans 16,550 base pairs within the chromosomal region 3p25.3 to 3.24.1. The murine il17rc gene contains 18 exons on chromsome 6 and spans 11,565 base pairs on the chromosomal arm 6q. The full-length human IL-17RC (hIL-17RC) contains 720 amino acids, and the murine IL-17RC (mIL-17RC) contains 698 amino acids. In both species, il17rc encodes a single pass type I transmembrane protein where the transmembrane domain is encoded in exon 17[1][2].

The initial discovery of IL-17RC was based on its high levels of expression in human prostate cancer cells. Specific overexpression of IL-17RC protects prostate cancer cell lines from TNFα-induced apoptosis. IL-17RC also contributes to autoimmune disease pathogenesis. In rheumatoid arthritis (RA) models have high levels of IL-17A, IL-17F, IL-17RA, and IL-17RC in sera and inflamed synovium. Furthermore, based on RNAi blocking experiments, both IL-17RA and IL-17RC are required for the pro-inflammatory factors secreted by RA synoviocytes. The gene transcript analyses of psoriatic lesions revealed an impairment of IL-17RC mRNA expression. Perhaps this defect in IL-17RC expression leads to a compensatory effect, which could result in overactive Th17 cells and an inflammatory program[1][2].

REFERENCES

[1]. Allen W Ho, et al. IL-17RC: a partner in IL-17 signaling and beyond. Semin Immunopathol. 2010 Mar;32(1):33-42.

[2]. Dongxia Ge, et al. Expression of interleukin-17RC protein in normal human tissues. Int Arch Med. 2008 Oct 17;1(1):19.

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