Recombinant Mouse IL-17 RC

Catalog Number: 2270-ML

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived Leu21-Trp465, with a C-terminal 6-His tag Accession # AAH04759
N-terminal Sequence Analysis	Leu21
Predicted Molecular Mass	50.5 kDa

SPECIFICATIONS

SDS-PAGE	75-85 kDa, reducing conditions
Activity	Measured by its ability to bind rmIL-17F in a functional ELISA with an estimated K_D < 3 nM.
Endotoxin Level	<1.0 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE under reducing conditions and visualized by silver stain.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 200 µg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 3 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

IL-17 receptor C (IL-17 RC; also known as IL-17 RL) is an 85 - 110 kDa member of the IL-17 receptor family. This is one of five families, termed IL-17 RA, B, C, D and E, that comprise the cytokine receptor superfamily (1 - 6). Not all receptors appear to bind known members of the IL-17 cytokine family. To date, IL-17 RA is reported to bind IL-17A, while IL-17 RB is reported to bind IL-17B and IL-17E (2, 4). Mouse IL-17 RC is a type I transmembrane glycoprotein that is expressed on a variety of nonhematopoietic cell types. Full-length IL-17 RC is synthesized as a 674 amino acid (aa) precursor (SwissProt # Q8K4C2). It contains a 21 aa signal sequence, a 419 aa extracellular domain (ECD), a 21 aa transmembrane segment, and a 213 aa cytoplasmic region. There are multiple potential N-linked glycosylation sites in the ECD and potential phosphorylation sites in the cytoplasmic tail. Four mouse variants have been identified that have been designated mIL-17 RC (7). The isoform expressed here as an R&D product is an unusual 567 aa form (8). Its precursor contains a 20 aa signal sequence, a 444 aa extracellular region, a 20 aa transmembrane segment and an 83 aa cytoplasmic tail. When compared to the full length mouse IL-17 RC form, this expressed isoform's extracellular region shows absolute aa identity, save for an additional 24 aa insert. In the cytoplasmic region, it is highly divergent and shows virtually no aa identity (8 - 9). The extracellular region of mouse IL-17 RC shows about 70% aa identity to the equivalent region in human IL-17 RC isoform # 3. IL-17 RC is the cognate receptor for IL-17F (7). In humans, IL-17 RC binds IL-17A with similar affinity, and with IL-17 RA, it forms a definitive receptor for both IL-17A and IL-17F (7). The stoichiometry is unclear; it may form a heterodimer with IL-17 RA, or a heterotrimer with a preexisting IL-17 RA homodimer (4, 7, 10, 11). The heteromeric nature of the receptor may be important given that the predominant form of the IL-17 cytokine is now considered to be an IL-17A:IL-17F heterodimer (4).

References:

1. Gaffen, S.L. *et al.* (2006) Vitam. Horm. **74**:255.
2. Weaver, C.T. *et al.* (2007) Annu. Rev. Immunol. **25**:821.
3. Moseley, T.A. *et al.* (2003) Cytokine Growth Factor Rev. **14**:155.
4. Shen, F. and S.L. Gaffen (2008) Cytokine **41**:92.
5. You, Z. *et al.* (2006) Cancer Res. **66**:175.
6. You, Z. *et al.* (2007) Neoplasia **9**:464.
7. Kuestner, R.E. *et al.* (2007) J. Immunol. **179**:5462.
8. GenBank Accession # AAH04759.
9. Haudenschild, D. *et al.* (2002) J. Biol. Chem. **277**:4309.
10. Toy, D. *et al.* (2006) J. Immunol. **177**:36.
11. Haudenschild, D.R. *et al.* (2006) Prostate **66**:1268.