Recombinant Human IL-17 RC

Catalog Number: 2269-IL

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived Leu21-Ala454, with a C-terminal 6-His tag Accession # NP_116121
N-terminal Sequence Analysis	Leu21
Predicted Molecular Mass	49 kDa

SPECIFICATIONS

SDS-PAGE	75-85 kDa, reducing conditions
Activity	Measured by its ability to bind rhIL-17 in a functional ELISA with an estimated K_D < 20 nM.
Endotoxin Level	<0.10 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 and IL-17 Rhom) is an 85 - 110 kDa member of the IL-17 receptor family. This is one of five families that currently comprise the cytokine receptor superfamily (1, 2, 3, 4, 5, 6). At this time, there are five members within the IL-17 receptor family, and these are termed IL-17 RA, B, C, D and E. Not all receptors appear to bind known members of the IL-17 cytokine family. To date, IL-17 RA is reported to bind IL-17(A), while IL-17 RB is reported to bind IL-17B and IL-17E (2, 4). Human IL-17 RC is a type I transmembrane glycoprotein that is expressed on a variety of nonhematopoietic cell types. These include endothelial cells (6, 7), chondrocytes and osteoblasts (8), breast and prostatic epithelium (6), and fibroblasts, plus renal tubular epithelium and skeletal muscle cells (8, 9). Full-length IL-17 RC is synthesized as a 791 amino acid (aa) precursor (10, 11). It contains a 20 aa signal sequence, a 518 aa extracellular domain (ECD) (aa 21 - 538), a 21 aa transmembrane segment, and a 232 aa cytoplasmic region. Although IL-17 RA has two fibrinogen-like regions in its ECD that contribute to its function, no such architecture has been identified in the ECD of IL-17 RC (12). Based on studies looking at exon deletions, a key ligand-binding site would appear to exist over aa 425 - 441 (13). The gene for human IL-17 RC contains 19 exons. It is estimated that there are over 90 alternative splice forms, with transmembrane-containing isoforms predominating (6, 14). The full-length isoform is estimated to occur approximately 10% of the time, while the three most common isoforms, as a group, occur about 50% of the time. Based on limited information, alternative splicing appears to regulate ligand specificity (13). R&D Systems IL-17 RC corresponds to IL-17 RC isoform # 3, which shows deletions of aa 36 - 106 and 264 - 278 relative to the full-length form (10). Over the ECD, IL-17 RC isoform #3 is 68% aa identical to mouse IL-17 RC ECD. IL-17 RC is the cognate receptor for IL-17F, and binds IL-17A with similar affinity (13). With IL-17 RA, it forms a definitive receptor for both IL-17A and IL-17F. The stoichiometry is unclear; it may form a heterodimer with IL-17 RA, or a heterotrimer with a preexisting IL-17 RA homodimer (4, 9, 13, 15). 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:

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