

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived			
	Human IL-11 R α (Cys26 - Val363) Accession # Q5VZ80	IEGRMD	Human IgG ₁ (Pro100 - Lys330)	6-His tag
	N-terminus		C-terminus	

N-terminal Sequence Cys26

Analysis

Structure / Form Disulfide-linked homodimer

Predicted Molecular Mass 64.2 kDa (monomer)

SPECIFICATIONS

SDS-PAGE	75-80 kDa, reducing conditions
Activity	Measured by its ability to bind rhIL-11 in a functional ELISA with an estimated $K_D < 5$ nM.
Endotoxin Level	<0.10 EU per 1 μ g of the protein by the LAL method.
Purity	>80%, by SDS-PAGE under reducing conditions and visualized by silver stain.
Formulation	Lyophilized from a 0.2 μ m filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 100 μ g/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <ul style="list-style-type: none"> 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

Interleukin-11 receptor alpha (IL-11 R α , IL-11 R α 1) is a 49 kDa type I transmembrane protein that is a member of the gp130 subfamily of the hematopoietic cytokine receptor family (1-4). Human IL-11 R α cDNA encodes 422 amino acids (aa) including a 23 aa signal peptide, a 347 aa extracellular domain (ECD) that contains a C2 type Ig-like domain, two fibronectin type III domains, two potential glycosylation sites and a WSXWS motif, a 21 aa transmembrane region and a short (31 aa) cytoplasmic domain (4). Human IL-11 R α shares 84%, 82%, 90% and 86% aa sequence identity with mouse, rat, equine and bovine IL-11 R α , respectively. In humans, a 390 aa isoform that lacks the cytoplasmic domain has been described (4). IL-11 R α first binds IL-11 with low affinity, then forms a high affinity receptor when complexed with gp130 homodimers (1, 3). IL-11 R α is widely expressed in adults, embryos and embryonic stem cells (4-6). Deletion in female mice causes faulty decidualization and lack of decidual NK cells and results in infertility (7-9). IL-11 is anti-apoptotic for oligodendrocytes, and lack of IL-11 R α increases the severity of experimental autoimmune encephalitis (10, 11). IL-11 R α is also anti-apoptotic for colonic epithelia, and increased IL-11 signaling may be a factor in inflammation-associated gastrointestinal cancer development (3, 12). IL-11 R α enhances osteoclast differentiation and bone remodeling, but inhibits adipocyte differentiation (1, 2). Recombinant soluble IL-11 R α confers IL-11 responsiveness to cells expressing gp130, while in cells expressing transmembrane IL-11 R α and gp130, soluble IL-11 R α acts as an IL-11 antagonist (13-15).

References:

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