Recombinant Mouse IL-7 Rα/CD127 Fc Chimera

Catalog Number: 747-MR

DESCRIPTION

Source

Mouse myeloma cell line, NS0-derived

Mouse IL-7 Rα (Glu21 - Asp239) Accession # Q9R0C1	IEGRMD	Human IgG_1 (Pro100 - Lys330)

N-terminus C-terminus

N-terminal Sequence Analysis	Glu21
Structure / Form	Disulfide-linked homodimer
Predicted Molecular Mass	51.6 kDa (monomer)

SPECIFICATIONS

SDS-PAGE	55-65 kDa, reducing conditions
Activity	Measured by its binding ability in a functional ELISA. Immobilized rmIL-7 Rα/Fc Chimera at 4 µg/mL (100 µL/well) can bind rmIL-7 with a linear range of 0.2-10 ng/mL.
Endotoxin Level	<0.01 EU per 1 µg of the protein by the LAL method.
Purity	>90%, 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 100 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

Interleukin 7 Receptor alpha (IL-7 Rα), also known as CD127, is a 75 kDa hematopoietin receptor superfamily member that plays an important role in lymphocyte differentiation, proliferation, and survival (1, 2). Mature mouse IL-7 Rα consists of a 219 amino acid (aa) extracellular domain (ECD) with one fibronectin type III domain and a WSxWS motif, a 25 aa transmembrane segment, and a 195 aa cytoplasmic domain (3). Within the ECD, mouse IL-7 Rα shares 67% and 79% aa sequence identity with human and rat IL-7 Rα, respectively. IL-7 Rα associates with the common γ chain (γ_c) to form the functional high affinity IL-7 receptor complex (4). The γ_c is also a subunit of the receptors for IL-2, -4, -9, -15, and -21. Human and mouse IL-7 show cross-species activity through the IL-7 receptor (3, 5). IL-7 Rα is expressed on double negative ($CD4^-CD8^-$) and $CD4^+$ or $CD8^+$ single positive T cells as well as on $CD8^+$ memory T cells and their precursors (6, 7). It is expressed early in B cell development, prior to the appearance of surface IgM (6). In mouse, IL-7 activation of IL-7 Rα is critical for both T cell and B cell lineage development (8). In human it is required for T cell but not for B cell development (9). IL-7 induces the down regulation and shedding of cell surface IL-7 Rα (10). IL-7 Rα additionally associates with TSLP R to form the functional receptor for thymic stromal lymphopoietin (11, 12). TSLP indirectly regulates T cell development by modulating dendritic cell activation (2, 13). Knockout of TSLP R in mice provokes minor changes in B and T cell development compared to those seen with IL-7 Rα deletion (8, 14). The complexity of IL-7 Rα biology is suggested by the competition between IL-7 and TSLP for receptor binding and by the ability of IL-7 Rα to form functional complexes with SCF R and HGF R (11, 12, 15, 16).

References:

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Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449