HUMAN IL-7 PROTEIN

Cat.#: 12031
Product Name: Human IL-7 Protein
Size : 10 µg, 50 µg and 100 µg
Synonyms: Interleukin-7;IL-7;IL7
Target: IL-7
UNIPROT ID: P13232
Description: Recombinant Human Interleukin-7 is produced by our E.coli expression system and the target gene encoding Asp26-His177 is expressed.
Background: Human Interleukin 7 (IL-7) is a potent lymphoid cell growth factor stimulating the proliferation of lymphoid progenitors. IL7 can associate with the hepatocyte growth factor (HGF) to form a hybrid cytokine that functions as a pre-pro-B cell growth-stimulating factor. Human IL7 cDNA encodes a 177 amino acid precursor protein containing a 25 amino acid signal peptide and a 152 amino acid mature protein. Human and mouse IL7 share 65% sequence identity in the mature region and both exhibit cross-species activity. IL-7 signals via IL-7 receptor (IL7R) activating multiple pathways including JaK/STAT and PI3K/AKT, which regulate lymphocyte survival, glucose uptake, proliferation, and differentiation. IL-7 is also associated with cytoplasmic IL2-R gamma for signal transduction.
Species/Host: E.coli
Molecular Weight: 17.5 KDa
Molecular Characterization: Not available
Purity: Greater than 95% as determined by reducing SDS-PAGE.
Formulation & Reconstitution: Lyophilized from nanodisc solubilization buffer (20 mM Tris-HCl, 150 mM NaCl, pH 8.0). Normally 5% – 8% trehalose is added as protectants before lyophilization.
Storage & Shipping: Store at -20°C to -80°C for 12 months in lyophilized form. After reconstitution, if not intended for use within a month, aliquot and store at -80°C (Avoid repeated freezing and thawing). Lyophilized proteins are shipped at ambient temperature.

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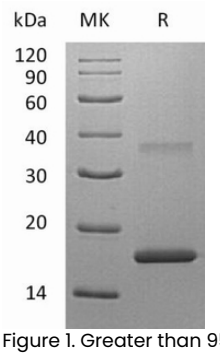

Figure 1. Greater than 95% as determined by reducing SDS-PAGE.

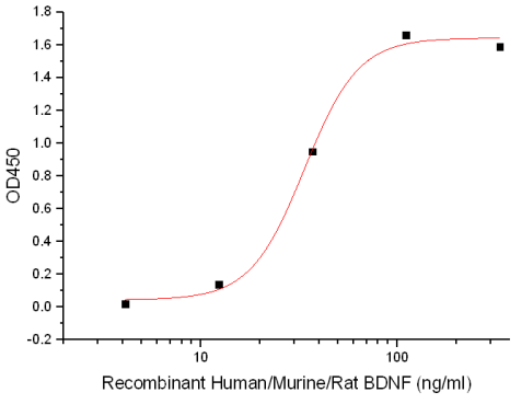

Figure 2. Measured in a cell proliferation assay using PHA-activated human peripheral blood lymphocytes (PBL). The ED50 for this effect is 0.02-0.08 ng/ml.

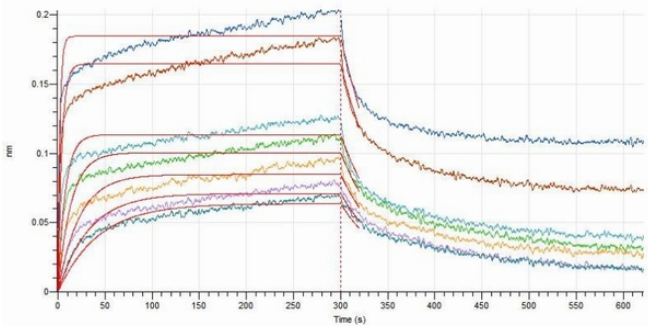

Figure 3. Loaded Human IL-7RA-His on HIS1K Biosensor, can bind Human IL-7 with an affinity constant of 15.04 nM as determined in BLI assay.

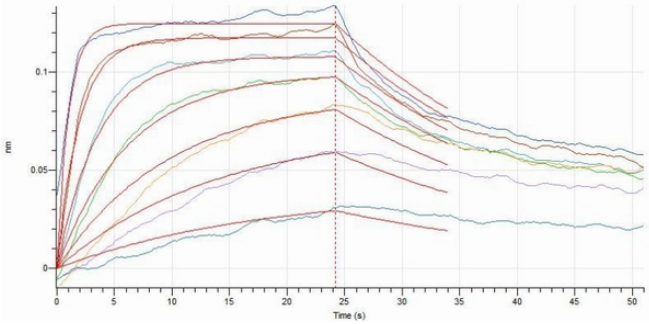

Figure 4. Loaded Human IL-7RA-Fc-His on HIS1K Biosensor, can bind Human IL-7 with an affinity constant of 18.59 nM as determined in BLI assay.

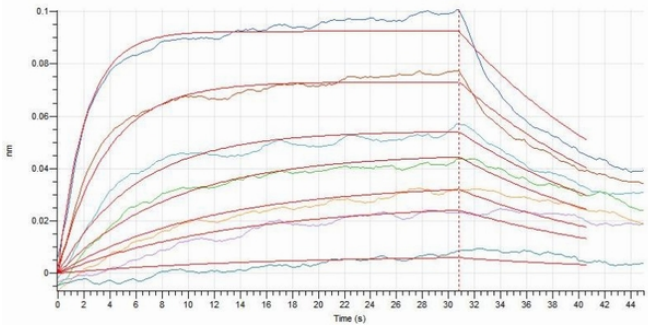

Figure 5. Loaded Mouse IL-7RA-Fc on Protein A Biosensor, can bind Human IL-7 with an affinity constant of 29.2 nM as determined in BLI assay.

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