Recombinant Mouse IL-10 Rα

Catalog Number: 474-MR

DESCRIPTION

Source	*Spodoptera frugiperda*, *Sf* 21 (baculovirus)-derived Thr24-Asn238 (Lys188Arg and Glu222Gly) Accession # Q61727
N-terminal Sequence Analysis	Thr24
Predicted Molecular Mass	24 kDa

SPECIFICATIONS

SDS-PAGE	31 kDa, reducing conditions
Activity	Measured by its ability to inhibit IL-10-dependent proliferation of MC/9-2 mouse mast cells. Thompson-Snipes, L. *et al.* (1991) J. Exp. Med. **173**:507. Approximately 1-3 µg/mL of recombinant mouse IL-10 sRα will inhibit 50% of the biological response due to 1 ng/mL of recombinant mouse IL-10.
Endotoxin Level	<1.0 EU per 1 µg of the protein by the LAL method.
Purity	>97%, by SDS-PAGE under reducing conditions and visualized by silver stain.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with BSA as a carrier protein. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 200 µg/mL in sterile PBS containing at least 0.1% human or bovine serum albumin.
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-10 Receptor alpha (IL-10 Rα), also known as IL-10 R1, is a 90-110 kDa transmembrane glycoprotein member of the class II cytokine receptor family (1). IL-10 Rα is required for mediating the effects of IL-10, a critical molecule in the control of microbial infections, allergic and autoimmune inflammation, and cancer (2-5). Whereas human IL-10 is active on mouse cells, mouse IL-10 does not act on human cells (6). IL-10 Rα is the ligand specific subunit of the IL-10 receptor complex. Noncovalent dimers of IL-10 bind to IL-10 Rα, resulting in the recruitment of IL-10 Rβ (6-8). IL-10 Rβ is a ubiquitously expressed transmembrane protein that does not bind IL-10 by itself but is required for signal transduction and *in vivo* IL-10 responsiveness (7, 9). IL-10 Rβ also associates with IL-20 Rα, IL-22 Rα, or IL-28 Rα to form the receptor complexes for IL-22, IL-26, IL-28, and IL-29 (1). Immunosuppressive signal transduction through the IL-10 receptor complex can be inhibited by activation of TLR2, 4, or 9, enabling strengthened immune responses during infection (10). Some polymorphisms of human IL-10 Rα may limit viral immune evasion by retaining full responsiveness to human IL-10 but responding weakly to the cytomegalovirus homolog of IL-10 (11). Mature mouse IL-10 Rα consists of a 225 amino acid (aa) extracellular domain (ECD), a 21 aa transmembrane segment, and a 313 aa cytoplasmic domain (12). Within the ECD, mouse IL-10 Rα shares 59% and 78% aa sequence identity with human and rat IL-10 Rα, respectively.

References:

1. Pestka, S. *et al.* (2004) Annu. Rev. Immunol. **22**:929.
2. Manzanillo, P. *et al.* (2015) Trends Immunol. **36**:471.
3. Sziksz, E. *et al.* (2015) Mediators Inflamm. **2015**:764641.
4. Mannino, M.H. *et al.* (2015) Cancer Lett. **367**:103.
5. Fitzgerald, D.C. *et al.* (2007) Nat. Immunol. **8**:1372.
6. Tan, J.C. *et al.* (1993) J. Biol. Chem. **268**:21053.
7. Kotenko, S.V. *et al.* (1997) EMBO J. **16**:5894.
8. Tan, J.C. *et al.* (1995) J. Biol. Chem. **270**:12906.
9. Spencer, S.D. *et al.* (1998) J. Exp. Med. **187**:571.
10. Fernandez, S. *et al.* (2004) J. Immunol. **172**:2613.
11. Gruber, S.G. *et al.* (2008) Eur. J. Immunol. **38**:3365.
12. Ho, A.S.-Y. *et al.* (1993) Proc. Natl. Acad. Sci. **90**:11267.

bio-techne®
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