



Genorise[®] Recombinant Ovine IL-12A

Catalog Number: GR104274

Background

IL-12 is an interleukin that acts as both a pro-inflammatory and anti-inflammatory cytokine and is produced by T cells, macrophages, fibroblasts, osteoblasts, endothelial and other cells (1,2,3). IL-12 induces proliferation and differentiation and acts on B cells, T cells, thymocytes, and others. IL-12 is one of the most important mediators of fever and of the acute phase response. In the muscle and fatty tissue, IL-12 stimulates energy mobilization that leads to increased body temperature. IL-12 can be secreted by macrophages in response to specific microbial molecules, referred to as pathogen associated molecular patterns (PAMPS). IL-12 in concert with TGF β is important for developing Th17 responses. IL-12 binds to IL-12R α that through association induces gp130 homodimerization (1). gp130 homodimerization triggers the Jak/STAT cascade and the SHP2/Erk Map kinase cascade (1,4,5). IL-12 also forms a complex with an IL-12R α splice variant that is non-membrane associated (4). The IL-12/soluble IL-12R α complex can then activate the gp130 signaling pathway on cells that express gp130 but not IL6R α (4). IL-12 is relevant to many disease processes such as diabetes (6), atherosclerosis (7), depression (8), Alzheimer's Disease (9), systemic lupus erythematosus (10), prostate cancer (11), breast cancer (12), and rheumatoid arthritis (13).

References

1. Heinrich, P.C. et al. (1998) *Biochem J* 334 (Pt 2), 297-314.
2. Heinrich, P.C. et al. (1998) *Z Ernährungswiss* 37 Suppl 1, 43-9.
3. Febbraio MA and Pedersen BK (2005). *Exerc Sport Sci Rev* 33 (3): 114–9.
4. Jones, S.A. (2005) *J Immunol* 175, 3463-8.
5. Jenkins, B.J. et al. (2004) *Mol Cell Biol* 24, 1453-63.
6. Kristiansen OP and Mandrup-Poulsen T (2005). *Diabetes* 54 Suppl 2: S114–24.
7. Dubiński A and Zdrojewicz Z (2007). *Pol. Merkur. Lekarski* 22 (130): 291–4.
8. Dowlati Y, et al (2010). *Biological Psychiatry* 67 (5): 446–457.
9. Swardfager W, et al (2010). *Biological Psychiatry* 68 (10): 930–941.
10. Tackey E, et al (2004). *Lupus* 13 (5): 339–43.
11. Smith PC, et al (2001). *Cytokine Growth Factor Rev.* 12 (1): 33–40.
12. Hong, D.S. et al. (2007) *Cancer* 110, 1911-28.
13. Nishimoto N (2006). *Curr Opin Rheumatol* 18 (3): 277–81

DECLARATION

THIS REAGENT IS FOR IN VITRO LABORATORY TESTING AND RESEARCH USE ONLY. DO NOT USE IT FOR CLINICAL DIAGNOSTICS. DO NOT USE OR INJECT IT IN HUMANS AND ANIMALS.

**FOR LABORATORY RESEARCH USE ONLY
NOT FOR USE IN HUMANS AND ANIMALS**



Genorise[®] Recombinant Ovine IL-12A

Catalog Number: GR104274

Description

Sources: expressed in *E. coli*.

Composition: Gly26-Ser221

Accession #: NP_001009736.1

Molecular weight: 22 kDa

Activity: Measured in a cell proliferation assay using PHA-stimulated human T lymphoblasts. Symons A. et al. (1987) in Lymphokines and interferons, a Practical Approach. Clemens MJ et al.(eds): IRL Press. 272.

The ED50 for this effect is typically 0.02-0.05 ng/ml.

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 staining.

Formulation: Lyophilized from a 0.2 µm filtered solution in PBS with BSA as a carrier protein.

Reconstitution: Reconstitute at 10-100 µg/ml in sterile PBS with at least 0.1% human or bovine serum albumin and 0.05% azide and store at -20°C ~ -70°C for up to 3 months.

Shipping and storage: The product is shipped at 4 °C with ice pad or at ambient temperature.

Upon receipt, store it immediately at -20°C to avoid loss of activity and use it in 6 months.

Related products

1. GR239031 96-well microplate sealer plastic, pack of 100
2. GR238016 50 ml Reagent Reservoir, 100/case, 5 packs/case (pack of 20)
3. GR238004 Tissue Culture 96-well Microplate, individually packed, Case of 50
4. GR238002 Microplate 12x8-Well Strip High Binding, Case of 50
5. GR238003 Microplate 12x8-Well Strip Medium Binding, Case of 50
6. GR238032 42592 Costar Stripwell Microplate 1 x 8 Flat Bottom, High Binding, Case of 100
7. GR238001 468667 Thermo Microplate 12x8-Well Strip Nunc Maxisorp F8, Case of 60
8. GR238019 1.5 ml Microcentrifuge tube with screw cap and free-standing, pack of 500