Genorise® Recombinant Ovine TNF-α

Catalog Number: GR104165

Background

TNF-α, the prototypical member of the TNF protein superfamily, is a homotrimeric type-II membrane protein (1, 2). Membrane bound TNF-α is cleaved by the metalloprotease TACE/ADAM17 to generate a soluble homotrimer (2). Both membrane and soluble forms of TNF-α are biologically active. TNF-α is produced primarily by macrophages, but it is produced also by a broad variety of cell types including lymphoid cells, mast cells, endothelial cells, cardiac myocytes, adipose tissue, fibroblasts, and neuronal tissue (1). Cellular response to TNF-α is mediated through interaction with receptors TNF-R1 and TNF-R2 and results in activation of pathways that favor both cell survival and apoptosis depending on the cell type and biological context. Activation of kinase pathways (including JNK, ERK (p44/42), p38 MAPK and NF-κB) promotes the survival of cells, while TNF-α mediated activation of caspase-8 leads to programmed cell death (1,2). TNF-α plays a key regulatory role in inflammation and host defense against bacterial infection, notably Mycobacterium tuberculosis (3). TNF-α causes many of the clinical problems associated with autoimmune disorders such as rheumatoid arthritis, ankylosing spondylitis, inflammatory bowel disease, psoriasis, hidradenitis suppurativa and refractory asthma. The role of TNF-α in autoimmunity is underscored by blocking TNF-α action to treat rheumatoid arthritis and Crohn's disease (1, 2, 4).

References

1. Aggarwal, B.B. (2003) Nat Rev Immunol 3, 745-56.
2. Hehlgans, T. and Pfeffer, K. (2005) Immunology 115, 1-20.
3. Lin, P.L. et al. (2007) J Investig Dermatol Symp Proc 12, 22-5.
4. Brennan, F.M. and McInnes, I.B. (2008) J Clin Invest 118, 3537-45.

Related products

1. GR238016 50 ml Reagent Reservoir, 100/case, 5 packs/case (pack of 20)
2. GR238004 Tissue Culture 96-well Microplate, individually packed, Case of 50
3. GR238019 1.5 ml Microcentrifuge tube with screw cap and free-standing, pack of 500
4. GR238007 125 ml leak-resistant HDPE bottle, colorless, pack of 24
5. GR238002 Microplate 12x8-Well Strip High Binding, Case of 50
6. GR238003 Microplate 12x8-Well Strip Medium Binding, Case of 50
7. GR238032 42592 Costar Stripwell Microplate 1 x 8 Flat Bottom, High Binding, Case of 100
8. GR238001 468667 Thermo Microplate 12x8-Well Strip Nunc Maxixorp F8, Case of 60
9. GR238031 96-well microplate sealer plastic, pack of 100

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.

Genorise® Recombinant Ovine TNF-α

Catalog Number: GR104165

Description

Accession #: NP_001020031.1

Sources: expressed in *E. coli*.

Composition: Leu78-Lys234

Molecular weight: 17 kDa

Activity: Measured in a cytotoxicity assay using L929 mouse fibrosarcoma cells in the presence of the metabolic inhibitor actinomycin D. Matthews, N. and M.L. Neale (1987) in Lymphokines and Interferons, A Practical Approach. Clemens, M.J. *et al*. (eds): IRL Press. 221.

The ED50 for this effect is typically 0.025 0.1 ng/mL.

Endotoxin level: <0.01 EU per 1 μg of the protein by the LAL method.

Purity: > 98%, by SDS-PAGE under reducing conditions and visualized by silver staining.

Formulation: Formulated from 0.2 μm filtered PBS containing 0.1% BSA.

Reconstitution: Reconstitute at 100 μg/ml in sterile PBS 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 ambient temperature. Upon receipt, store it immediately at -20°C to avoid loss of activity and use it in 6 months.

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