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Fas LIGAND/TNFSF6
Mouse, Recombinant
Expressed in NSO cells

Product Number **F 0552**

Synonyms: FasL, CD95 ligand, Apo-1 ligand, TNFSF6

Product Description
Recombinant mouse Fas ligand (FasL) consists of amino acid residues 132-279 of mouse FasL[1] fused at the amino terminus to a 6X histidine tag which is then linked at the carboxy-terminus to a CD33 (Met1 – Met17) signal peptide. The N-terminal 6X his-tagged recombinant protein is expressed in a mouse myeloma NSO cells. Recombinant mouse Fas ligand, after removal of the CD33 signal peptide, is a non-covalently linked trimer. The monomer has a calculated molecular weight of approximately 18 kDa. As a result of glycosylation, recombinant Fas Ligand migrates as an approximately 28 to 32 kDa protein on SDS-PAGE under reducing and non-reducing conditions.

Native Fas ligand is a 40 kDa, type II membrane protein belonging to the TNF super family. Its specific receptor, Fas (CD95/Apo-1), is a 45 kDa protein that transduces the apoptotic signal into cells. Fas Ligand is expressed primarily by T cells and NK cells and to a lesser degree in the testes, cornea, and several malignant tumor cell types. Human Fas ligand shares 85% sequence identity with mouse Fas ligand and 78% sequence identity with rat Fas ligand.

The Fas/FasL system modulates the immune response by inducing cell apoptosis to maintain homeostasis and in the regulation of immune responses and privilege.[2] Cysteine-rich repeats of the Fas receptor are required for binding by the Fas ligand.[3] This binding induces trimerization of Fas in the target cell membrane and activation. Activation of Fas causes the recruitment of Fas-associated protein with death domain (FADD) via interactions between the death domains of Fas and FADD.[4] Pro-caspase 8 binds to Fas-bound FADD via interactions between the death effector domains (DED) of FADD and pro-caspase 8 leading to the activation of caspase 8. Activated caspase 8 then cleaves (activates) nine other procaspases, a process that ultimately leads to apoptosis.

B cell antigen receptor signaling inhibits Fas-mediated apoptosis via up-regulation of cellular FLICE-inhibitory protein (c-FLIP).[5] The expression of the Fas ligand is regulated by protein phosphatases(s) sensitive to okadaic acid.[6] Serum withdrawal-induced apoptosis is mediated partially by the Fas/FasL interactions.[7]

Studies suggest the Fas ligand is also a potent chemotactic factor in polymorphonuclear neutrophils which may be independent of the death-domain mediated apoptosis previously described.[8]

Reagent
Recombinant mouse Fas ligand is supplied as approximately 50 µg of protein lyophilized from a sterile filtered phosphate-buffered saline (PBS) solution containing 50 µg bovine serum albumin per µg of cytokine.

Preparation Instructions
Reconstitute the vial contents with sterile PBS containing a minimum of 1% human or bovine serum albumin. Stock solution concentration should be no less than 100 µg/ml.

Storage/Stability
Lyophilized samples are stable for at least six months at –20 °C. Upon reconstitution, store at 2-4 °C for up to one month. For extended storage, store in working aliquots at –20 °C. Repeated freeze-thaw cycles should be avoided. Do not store in frost-free freezer.

Product Profile
Recombinant Fas Ligand activity is measured by its ability to induce apoptosis in Jurkat cells. Recombinant mouse Fas ligand effective range is 0.4 to 1.2 µg/ml in the presence of a cross-linking anti-6X histidine antibody. Optimal dilutions should be determined by each laboratory for each application.

Purity: >95% by SDS-PAGE, visualized by silver stain.

Endotoxin level: < 0.1 ng/µg of protein as determined by the LAL (Limulus amebocyte lysate) method.

References

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