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Product Information

Fas Ligand, soluble, human
recombinant, expressed in HEK 293 cells

Catalog Number **S8689**
Storage Temperature –20 °C

Synonym: *Super*Fas Ligand™

Product Description
This product is produced in human embryo kidney cells by fusing the extracellular domain of human FasL, fragment 103–281 at the N-terminus to a 26 amino acid linker peptide and a FLAG-tag. The fusion protein migrates on SDS-PAGE under reducing conditions as a 32 kDa protein for the nonglycosylated form and 35 kDa for the glycosylated form of the protein. Glycosylation of recombinant protein is similar or identical to natural human FasL and *Super*Fas Ligand recognizes the Fas receptor (CD95) on human, rat, and mouse cells.

The Fas ligand (FasL) is a cytokine that binds to the Fas antigen, a receptor that transduces the apoptotic signal into cells. FasL is a type II membrane protein belonging to the TNF family and predominantly expressed on activated T cells and NK cells. The Fas/FasL system modulates the immune response by inducing cell apoptosis to maintain homeostasis and in the regulation of immune responses and privilege.[1] The cysteine-rich repeats of the Fas receptor are required for binding by the Fas ligand.[2] Binding of the Fas ligand induces trimerization of Fas in the target cell membrane. Activation of Fas causes the recruitment of Fas-associated protein with death domain (FADD) via interactions between the death domains of Fas and FADD.[3] 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 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).[4] The expression of the Fas ligand is regulated by protein phosphatases(s) sensitive to okadaic acid.[5] Serum withdrawal-induced apoptosis is mediated partially by the Fas/FasL interactions.[6]

This product is supplied as a lyophilized powder containing phosphate buffered saline salts.

Purity: ≥95% (SDS-PAGE)

The ability of this product to induce apoptosis of A20B lymphoma cells has been determined (ED_{50} = 1 ng/ml). It does not require any enhancer since the modified linker sequence facilitates the formation of active FasL complexes.

Precautions and Disclaimer
This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions
Reconstitute the product with 50 µl of sterile water to a concentration of 0.1 mg/ml. Further dilutions should be made with cell culture medium containing 5% fetal calf serum or phosphate buffered saline containing at least 0.1% human serum albumin or bovine serum albumin.

Storage/Stability
Store the product at –20 °C.

Upon reconstitution, store under sterile conditions at 2–8 °C for one month or at –20 °C to –70 °C for three months without detectable loss of activity. Avoid repeated freeze-thaw cycles.

References

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2. Orlinick, J.R. et al., Requirement of cysteine-rich repeats of the Fas receptor for binding by the Fas ligand. J. Biol. Chem., **272**, 28889-28894 (1997).
3. Juo, P. et al., FADD is required for multiple signaling events downstream of the receptor Fas. J. Cell Growth Differ., **10**, 797-804 (1999).
4. Wang, J. et al., Inhibition of Fas-mediated apoptosis by the B cell antigen receptor through c-FLIP. Eur. J. Immunol., **30**, 155-163 (2000).
5. Morimoto, Y. et al., Upregulation of the expression of Fas antigen and Fas ligand in a human submandibular gland ductal cell line by okadaic acid. Arch. Oral Biol., **45**, 657-666 (2000).
6. Hu, C.L., Apoptosis of bovine granulosa cells after serum withdrawal is mediated by Fas antigen (CD95) and Fas ligand. Biol. Reprod., **64**, 518-526 (2001).

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