PRODUCT INFORMATION

CD95 Extracellular Domain (human, recombinant)

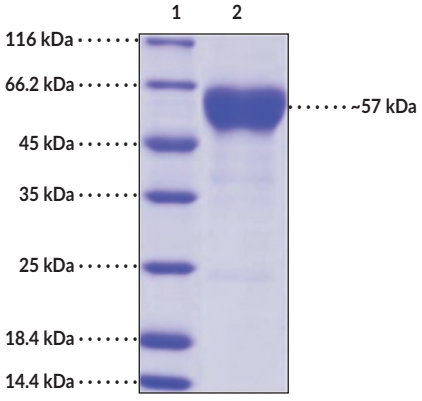
Item No. 32036

Overview and Properties

Synonyms:	APO-1, Apoptosis Antigen, APT, Cluster of Differentiation 95, Fas, TNFRSF6, Tumor Necrosis Factor Receptor Superfamily, Member 6
Source:	Active recombinant C-terminal human IgG1 Fc-tagged CD95 extracellular domain expressed in HEK293 cells
Amino Acids:	26-173
Uniprot No.:	P25445
Molecular Weight:	43.4 kDa
Storage:	-80°C (as supplied)
Stability:	≥1 year
Purity:	≥95% estimated by SDS-PAGE
Supplied in:	Lyophilized from sterile PBS, pH 7.4
Endotoxin Testing:	<1.0 EU/µg, determined by the LAL endotoxin assay
Bioactivity:	See figures for details

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Images



Lane 1: MW Markers
Lane 2: CD95 Extracellular Domain (human, recombinant)

Figure 1: SDS-PAGE Analysis of CD95 Extracellular Domain (human, recombinant)

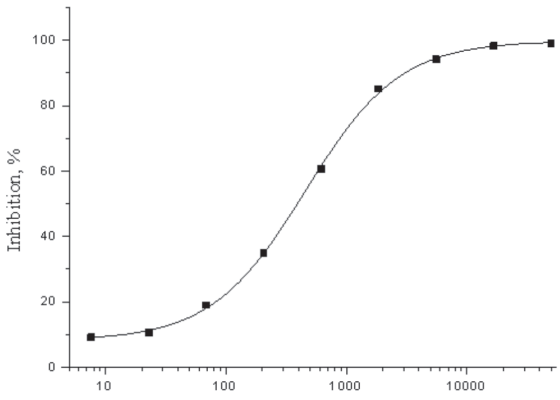


Figure 2: CD95 Extracellular Domain Binding in Functional ELISA. The bioactivity of CD95 Extracellular Domain (human, recombinant) is measured by its ability to inhibit Fas Ligand induced apoptosis of Jurkat human acute T cell leukemia cells. The ED_{50} for this effect is typically 0.3- 2 µg/ml in the presence of recombinant human Fas ligand.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent *via* email to your institution.

WARRANTY AND LIMITATION OF REMEDY
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CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM

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Description

CD95 is a type I transmembrane glycoprotein receptor encoded by the *FAS* gene in humans.[1] Alternative splicing of *FAS* generates a soluble form of the protein. CD95 is expressed by activated T and B cells and thymocytes, and has been found in the thymus, liver, heart, and kidney.[2-4] CD95 is involved in the induction of apoptosis, as Fas ligand activation of CD95 leads to formation of a death-inducing signaling complex (DISC) comprised of CD95 oligomers, the Fas-associated death domain protein (FADD), procaspase-8, procaspase-10, and c-FLIP.[5] DISC formation and CD95 internalization is rapid in type I apoptotic cells, where it is associated with plasma membrane lipid rafts, and delayed in type II apoptotic cells, where it is found in both lipid raft- and non-raft regions of the membrane.[6,7] CD95 has non-apoptotic activity as well, including activation of the NF-κB signaling pathway and inducing renal tubular epithelial cell migration, among others.[4] Inhibition or activation of CD95 reduces or promotes cancer cell functions, respectively, *in vitro* and *in vivo* in animal models. However, high serum levels of CD95 in patients with various cancers are associated with metastasis, progression, and shorter survival. Mice lacking the gene for CD95 develop spontaneous autoimmunity and have been used as a model of systemic lupus erythematosus (SLE). Mutations in *FAS* are associated with various cancers and autoimmune lymphoproliferative syndrome (ALPS) type 1a, which is characterized by non-malignant lymphadenopathy and splenomegaly.[4,6] Cayman's CD95 Extracellular Domain (human, recombinant) protein can be used for cell-based assay applications. This protein is a disulfide-linked homodimer. The reduced monomer, comprised of CD95 (amino acids 26-173) fused to IgG1 Fc at its C-terminus, consists of 386 amino acids, has a calculated molecular weight of 43.4 kDa, and a predicted N-terminus of Gln26 after signal peptide cleavage. As a result of glycosylation, the monomer migrates at approximately 55 to 60 kDa by SDS-PAGE under reducing conditions.

References

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3. Peter, M.E., Hadji, A., Murmann, A.E., *et al.* The role of CD95 and CD95 ligand in cancer. *Cell Death Differ.* **22(4)**, 549-559 (2015).
4. Lavrik, I.N. and Krammer, P.H. Regulation of CD95/Fas signaling at the DISC. *Cell Death Differ.* **19(1)**, 36-41 (2011).
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7. Scaffidi, C., Fulda, S., Srinivasan, A., *et al.* Two CD95 (APO-1/Fas) signaling pathways. *EMBO J.* **17(6)**, 1675-1687 (1998).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM