



# Recombinant Human B7-H2 Fc Chimera

20180427BB



**FOR RESEARCH ONLY! NOT FOR HUMAN USE!**

<b>Cat.-no.:</b>	<b>100-017S</b>
<b>Size:</b>	20 µg
<b>Lot. No.:</b>	According to product label

## Scientific Background

<b>Gene-ID (NCBI):</b>	23308
<b>Synonyms:</b>	Inducible Costimulator-Ligand (ICOSL), B7 homolog 2, B7-like protein GI50, B7-related protein 1 (B7RP-1), CD275

B7-H2, or inducible costimulator-ligand (ICOSL), is a transmembrane, co-stimulatory ligand of the T cell-specific surface receptor Inducible T-cell costimulator (ICOS) that belongs to the B7 family and immunoglobulin superfamily, along with B7-1, B7-2, PD-L1 (B7-H1) and PD-L2. Whereas expression of inducible B7-1 and B7-2 is largely confined to specialized antigen-presenting cells of lymphoid tissues, B7-H2 expression occurs constitutively in hematopoietic and non-hematopoietic cells of peripheral organs. This striking difference in expression indicates that these three B7 ligands may enable temporally and spatially specific regulation of T cell response through non-competitive CD28 interaction; marking a unique function of B7-H2 in immune reactions of nonlymphoid organs in which T cells have migrated to peripheral tissues having only limited expression of B7-1 and B7-2. Expression of B7-H2 has been shown to be differentially regulated by both TNF- $\alpha$  and IL-1 $\beta$ , and inducible to a lesser extent by CD40 or lipopolysaccharide stimulation. B7-H2's binding to ICOS on activated T cells results in both positive and negative effects on immune response, including its own downregulation. As a member of the immunoglobulin superfamily, B7-H2 is crucially involved in inflammatory immune reactions and the control of excessive immune response; however, unlike B7-1 and B7-2, B7-H2 has not been shown to influence immunity through interaction with CTLA-4, and has only been shown to have restricted interaction with CD28. Interaction of B7-H2 with ICOS has been identified as a critical event in the immunosuppression of tumor-associated memory CD4+ T cells, and has been linked to various auto-immune disorders. PeproTech's CHO cell-derived Recombinant Human B7-H2 Fc is a glycosylated, disulfide-linked homodimer of 942 amino acid residues whose monomer consists of the 238-amino-acid length extracellular portion of B7-H2 fused to the 231-amino-acid length Fc portion of human IgG1 by two glycines. The calculated molecular weight of Recombinant Human B7-H2 Fc dimer is 104.9 kDa; however, due to glycosylation, it migrates at an apparent molecular weight of approximately 90-95 kDa by SDS-PAGE analysis under reducing conditions.

## Sequence

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DTQEKEVRAM VGSDELSCA CPEGSRFDLN DVVYVWQTSE
SKTVVYTHIP QNSSLENVDS RYRNRALMSP AGMLRGDFSL
RLFNVTPQDE QKFHCLVLSQ SLGFQEVLSV EVTLHVAANF
SVPVVSAPHS PSQDELTFTC TSINGYPRPN VYWINKTDNS
LLDQALQNDT VFLNMRGLYD VVSVLRIART PSVNIGCCIE
NVLQQNLTV GSQTGNDIGE RDKITENPVS TGEKNAATGG
PKSCDKTHTC PPCPAPELLG GPSVFLFPPK PKDTLMSRT
PEVTCVVVDV SHEDPEVKFN WYVDGVEVHN AKTKPREEQY
NSTYRVVSVL TVLHQDWLNG KEYKCKVSNK ALPAPIEKTI
SKAKGQPREP QVYTLPPSRD ELTKNQVSLT CLVKGFYPSD
IAVEWESNGQ PENNYKTPP VLDSDGSFFL YSKLTVDKSR
WQQGNVFSKS VMHEALHNHY TQKSLSLSPG K
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## Database References

<b>Protein RefSeq:</b>	NP_056074.1
<b>Uniprot ID:</b>	O75144
<b>mRNA RefSeq:</b>	NM_015259.5

## Product Specifications

<b>Expressed in</b>	CHO cells
<b>Purity</b>	> 98% by SDS-PAGE & HPLC analyses
<b>Endotoxin level</b>	< 0.1 ng /µg of protein (<1EU/µg).
<b>Formulation</b>	lyophilized
<b>Length (aa):</b>	471
<b>MW:</b>	104.9 kDa



**AVOID REPEATED FREEZE AND THAW CYCLES!**

**Biological Activity:** Determined by its ability to induce adhesion in Jurkat cells activated by immobilized anti-CD3. The ED<sub>50</sub> for this effect is 0.3-0.6 µg/ml.