ReliaTech GmbH

Specification/Data Sheet

Recombinant Human B7-2/Fc Chimera

20180507BB

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Cat.-no.:	**S01-007S**
Size:	20 µg
Lot. No.:	According to product label

Scientific Background

Gene-ID (NCBI):	*942*
Synonyms:	B70, CD86, ETC1

B7-1 and B7-2 are transmembrane glycoproteins of the immunoglobulin superfamily that are expressed, along with the receptors CD28 and CTLA4, by antigen-presenting cells, and along with these receptors, constitute crucial co-stimulatory pathways for T and B cell regulatory responses. As members of the B7 family, B7-1 and B7-2 play principal roles in immunity, activating immune response and maintaining immune tolerance through engagement with CD28 and CTLA4. Co-stimulatory signals generated by B7-1 and B7-2 interactions with CD28 serve to stimulate T cell activation and prevent anergy through the amplification of T cell receptor (TCR) signaling. In contrast, interactions of the ligands with CTLA-4 serves to maintain T cell homeostasis and self-tolerance through the disruption of stimulatory signaling from B7 isoform bound CD28 complexes, and by inducing powerful inhibitory signals in T cells. B7-1 plays an important role in immune response through its amplification and regulation of T cell activity at peripheral inflammation sites. B7-1, like CTLA-4, is, however, only poorly expressed on resting dendritic cells, and its up-regulation is, therefore, considerably delayed upon immune activation. Conversely, B7-2 and CD28 are constitutively expressed by resting hematopoietic and T cells, respectively, and as a result are able to rapidly induce up-regulation upon immune activation, making them critical to the early co-stimulatory signaling of immune response. Both B7-1 and B7-2 have been shown to demonstrate co-stimulatory activity in T-cell proliferation in vitro and elicit enhanced antitumor immune response in vivo. Recombinant Human B7-2Fc is a homodimeric B7-2 fusion protein, whose monomer contains a total of 453 amino acid residues, consisting of 222 amino acid residues corresponding to the extracellular domain of human B7-2, fused to the Fc portion of human IgG1. The calculated molecular weight of the B7-2 Fc monomer is 51.2 kDa.

Sequence

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LKIQAYFNET ADLPCQFANS QNQSLSELVV FWQDQENLVL
NEVYLGKEKF DSVHSKYMGR TSFDSDSWTL RLHNLQIKDK
GLYQCIIHHK KPTGMIRIHQ MNSELSVLAN FSQPEIVPIS
NITENVYINL TCSSIHGYPE PKKMSVLLRT KNSTIEYDGV
MQKSQDNVTE LYDVSISLSV SFPDVTSNMT IFCILETDKT
RLLSSPFSIE LEDPQPPPDH GGPKSCDKTH TCPPCPAPEL
LGGPSVFLFP PKPKDTLMIS RTPEVTCVVV DVSHEDPEVK
FNWYVDGVEV HNAKTKPREE QYNSTYRVVS VLTVLHQDWL
NGKEYKCKVS NKALPAPIEK TISKAKGQPR EPQVYTLPPS
RDELTKNQVS LTCLVKGFYP SDIAVEWESN GQPENNYKTT
PPVLDSDGSF FLYSKLTVDK SRWQQGNVFS CSVMHEALHN
HYTQKSLSLS PGK
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Database References

Protein RefSeq:	NP_795711.1
Uniprot ID:	P42081
mRNA RefSeq:	NM_176892.1

Product Specifications

Expressed in	CHO cells
Purity	> 95% by SDS-PAGE & HPLC analyses
Endotoxin level	< 0.1 ng /µg of protein (<1EU/µg).
Formulation	lyophilized
Length (aa):	222
MW:	51.2 kDa

AVOID REPEATED FREEZE AND THAW CYCLES!

Biological Activity: Determined by its ability to inhibit alkaline phosphatase activity in differentiating MC3T3/E1 cells. The expected ED_{50} for this effect is 0.5-1.5 µg/ml.