



Recombinant Human CD100, soluble

20150227BB



FOR RESEARCH ONLY! NOT FOR HUMAN USE!

Cat.-no.:	S01-063
Size:	20 µg
Lot. No.:	According to product label

Scientific Background

Gene-ID (NCBI):	10507
Synonyms:	SEMA4D; CD100; SEMAJ; coll-4; C9orf164; M-sema-G

The Semaphorins are a large family of phylogenetically conserved proteins that play a pivotal role in maintaining homeostasis in the immune system. Twenty members of this family have been identified and categorized into eight subclasses based on sequence similarity and distinctive structural features. CD100, also known as Sema4D, is a 150 kDa transmembrane class IV semaphorin. Studies have shown that CD100 can induce monocyte migration, T-cell activation, and B-cell survival, as well as T/B cell and T/DC “cooperation”. The CD100 precursor contains 862 amino acids, including a 21 a.a. signal sequence, a 713 a.a. extracellular domain, a 21 a.a. transmembrane sequence, and a 107 a.a. cytoplasmic region. The extracellular sequence contains several structural features, including a 479 a.a. “sema” domain, a 79 a.a. Ig-like sequence, and a 52 a.a. “Plexin-type repeat”. Recombinant soluble CD100 (sCD100) is a 78.9 kDa protein comprising the extracellular domain of CD100 (711 amino acids). SDS-PAGE analysis run under non-reducing conditions shows a mixture of disulfide linked dimer and monomer.

Sequence

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FAPIPRITWE HREVHLVQFH EPDIYNYSAL LLSSEKDTLY
IGAREAVFAV NALNISEKQH EVYWKVSEDK KAKCAEKGKS
KQTECLNYIR VLQPLSATSL YVCGTNAFQP ACDHLNLTSF
KFLGKNEDGK GRCPFDPAHS YTSVMVDGEL YSGTSYNFLG
SEPIISRNSS HSPLRTEYAI PWNLEPSFVF ADVIRKSPDS
PDGEDDRVYF FTEVSVVEYE FVFRVLPRI ARVCKGDQGG
LRTLQKKWTS FLKARLICS R PDSGLVFNVL RDVFLRSPG
LKVPFYFALF TPQLNNVGLS AVCAYNLSTA EEVFSHGKYM
QSTTVEQSHT KWVRYNGPVP KPRPGACIDS EARAANYTSS
LNLDPDKTLQF VKDHPLMDDS VTPIDNRPRL IKKDVNYTQI
VVDRTQALDG TVYDVMFVST DRGALHK AIS LEHAVHIIEE
TQLFQDFEPV QTL LLS SKKG NRFVYAGSNS GVVQAPLAF
GKHGTCEDCV LARDPYCAWS PPTATCV ALH QTESPSRGLI
QEMSGDASVC PDKSKGSYRQ HFFKHGGTAE LKCSQKSNLA
RVFWKQNGV LKAESPKYGL MGRKNLLIFN LSEGD SGVYQ
CLSEERVKNK TVFQVVAKHV LEVKVVPKPV VAPTL SVVQT
EGSRIATKVL VASTQGSSPP TPAVQATSSG AITLPPKPA P
TGTSCEPKIV INTVPQLHSE KTMYLKSSDN R

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Database References

Protein RefSeq:	NP_006369.3
Uniprot ID:	Q92854
mRNA RefSeq:	NM_006378.3

Product Specifications

Expressed in	CHO cells
Purity	> 97% by SDS-PAGE & HPLC analyses
Endotoxin level	< 0.1 ng /µg of protein (<1EU/µg).
Formulation	lyophilized
Length (aa):	711
MW:	78.9 kDa

Biological Activity: Measured by its ability to inhibit chemokine (hMCP-3) induced human monocyte migration.



AVOID REPEATED FREEZE AND THAW CYCLES!