



Recombinant human C1 Inhibitor

20150227BB



FOR RESEARCH ONLY! NOT FOR HUMAN USE!

Cat.-no.:	100-435
Size:	200 µg
Lot. No.:	According to product label

Scientific Background

Gene-ID (NCBI):	710
Synonyms:	Plasma protease C1, C1inh, C1 Esterase Protein, C1-inhibiting factor, Serpin G1

C1 Inhibitor is a member of the serpin family of structurally related proteins, and is the primary regulator of the immune complement system. C1Inhibitor is a protease inhibitor that functions to inhibit the complement system in order to prevent over-activation or spontaneous activation. Inhibition is achieved by binding to and irreversibly inhibiting the C1r and C1s proteases of the C1 complex, which has the effect of shutting down all subsequent downstream events in the complement activation cascade. C1inhibitor can also inhibit various other proteases, including Kallikrein, Factor XIa, and Factor XIIa. Deficiencies in C1inhibitor are the primary cause of hereditary angioedema (HAE, hereditary angioneurotic edema), a disease characterized by edema in the respiratory and gastrointestinal tracts. In certain clinical situations, the direct administration of C1inhibitor can be used to treat HAE and certain other conditions. Recombinant Human C1 Inhibitor is a highly glycosylated glycoprotein containing 445 amino acid residues (49.4kDa), corresponding to amino acids 56 – 500 of the C1 inhibitor precursor, and is fully functional in its ability to inhibit the C1 complex. Glycosylated C1 Inhibitor migrates at an apparent molecular weight of approximately 80-90 kDa by SDS PAGE analysis under reducing conditions.

Sequence

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VEPILEVSSL PTTNSTNSA TKITANTTDE PTTQPTTEPT
TQPTIQPTQP TTQLPTDSPT QPTTGSFCPG PVTLCSDLSE
HSTEAVLGDA LVDFSLKLYH AFSAMKKVET NMAFSPFSIA
SLLTQVLLGA GENTKTNLES ILSYPKDFTC VHQALKGFTT
KGVTSVSQIF HSPDLAIRDT FVNASRTLYS SSPRVLSNNS
DANLELINTW VAKNTNKNIS RLLDSLPSDT RLVLLNAIYL
SAKWKTTFDP KKTRMEPFHF KNSVIKVPMM NSKKYPVAHF
IDQTLKAKVG QLQLSHNLSL VILVPQNLKH RLEDMEQALS
PSVFKAIMEK LEMSKFQPTL LTLPRIKVTT SQDMLSIMEK
LEFFDFSYDL NLCGLTEDPD LQVSAMQHQT VLELTETGVE
AAAAAISVA RTLLVFEVQQ PFLFVLWDQQ HKFPVFMGRV YDPRA
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Database References

Protein RefSeq:	NP_000053.2
Uniprot ID:	P05155
mRNA RefSeq:	NM_000062.2

Product Specifications

Expressed in	CHO cells
Purity	>95% by SDS-PAGE & HPLC analysis
Endotoxin level	< 0.1 ng /µg of protein (<1EU/µg).
Formulation	lyophilized
Length (aa):	445
MW:	49.4 kDa

Biological Activity: Measured by its ability to inhibit recombinant human complement component C1a cleavage of a colorimetric peptide substrate, N Carbobenzyloxy-Lys-ThioBenzyl ester (Z-K-SBzl). The expected IC50 is ≤ 2.6 nM.



AVOID REPEATED FREEZE AND THAW CYCLES!