

Recombinant Human C1S, His-tagged

Human, Recombinant (C1S, His-tagged)

Expressed in *HEK293*

Cat. No. *C1S-597H*

Lot. No. (See product label)

PRODUCT INFORMATION

Product Overview: Recombinant Human C1S was produced in *Human Cells (HEK293)* with a C-terminal his tag.

Description: Complement is an integral component of the adaptive and innate immune systems and represents one of the major effector systems for the immune responses. The classical complement pathway is triggered by C1, a complex composed of the binding protein C1q and two proenzymes, C1r and C1s. Upon binding of IgG to the head of C1q, C1r undergoes autoactivation and in turn cleaves and activates C1s. As a highly specific serine protease, C1s executes the catalytic function of the C1 complex: the cleavage of C4 and C2, and thus instigates a sequence of activation steps of other components of the complement system, culminating in the formation of the membrane attack complex which induces cell lysis. The single-chain proenzyme C1s is processed into the active form of disulfide-linked two chains: the A chain contains multiple domains in the order of CUB1-EGF-CUB2-CCP1-CCP2-Activation Peptide, while the B chain contains the serine protease catalytic domain. The only other protein known to interact with C1s physiologically is SerpinC1, an inhibitor of serine protease, which inhibits C1s activity and thus plays a regulatory role in controlling the function of C1s enzyme.

Molecular Mass: The recombinant human active protease C1s is composed of disulfide-linked A and B chains. The heterodimer consists of 684 amino acids and has a predicted molecular mass of 76.3kDa. As a result of glycosylation, rhC1s heterodimer migrates as an approximately 95kDa band in SDS-PAGE under non-reducing conditions.

Source: *Human Cells (HEK293)*.

Predicted N Terminal: Glu 16.

Endotoxin: <1.0 EU per 1µg of the cytokine as determined by the LAL method.

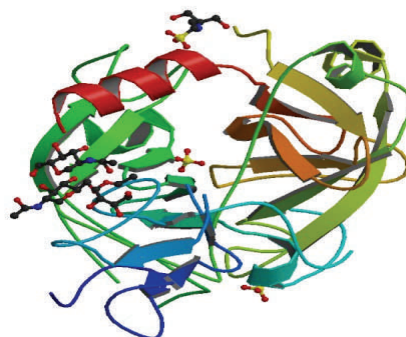
Formulation: Supplied as a 0.2µm filtered solution of 100mM Glycine, 10mM NaCl, 50 mM Tris, pH 7.5.

Reconstitution: Follow the instructions on the vial. Centrifuge the vial at 4°C before opening to recover the entire contents.

Purity: >97%, as determined by SDS-PAGE and SEC-HPLC Analysis.

Stability: Samples are stable for up to twelve months from date of receipt -70°C.

Storage: Store at -70°C; Avoid repeated freeze-thaw cycles.



PDB rendering based on 1elv.

GENE INFORMATION

Gene Name: [C1S complement component 1, s subcomponent \[Homo sapiens\]](#)

Synonyms: C1S; complement component 1, s subcomponent; FLJ44757; OTTHUMP00000197019; basic proline-rich peptide IB-1; Complement C1s subcomponent; EC 3.4.21.42; C1 esterase

GeneID: [716](#)

mRNA Refseq: [NM_001734](#)

Protein Refseq: [NP_001725](#)

MIM: [120580](#)

UniProt ID: P09871

Chromosome Location: 12p13

Pathway: Complement and coagulation cascades; Systemic lupus erythematosus; Signaling in Immune system

Function: calcium ion binding; peptidase activity; serine-type endopeptidase activity

REFERENCES

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2. Kusumoto, H. et al., 1988, *Proc. Natl. Acad. Sci. USA* 85:7307 - 7311.
3. Kerr, F.K. et al., 2005, *J. Biol. Chem.* 280: 39510-39514.
4. Busby Jr, W. H. et al., 2000, *J. Biol. Chem.* 275: 37638-37644.

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