

Active Native Human C1s Enzyme

Cat. No. Complement C1s-44H **Lot. No.** (See product label)

SPECIFICATION

Product Overview

Native Human C1s Enzyme purified from serum (shown by certified tests to be negative for HBsAg, HTLV-I/II, STS, and for antibodies to HCV, HIV-1 and HIV-II).

Species

Human

Source

Serum

Description

C1s enzyme is the activated form of C1s proenzyme. C1s is a subunit of the C1 complex which is the first complement component in the classical pathway of complement. C1s proenzyme is an inactive zymogen until C1 is activated. C1s proenzyme is activated when C1 binds to and is activated by antibodies bound to antigens (immune complexes) yielding C1r enzyme, the first protease that initiates the cascade. C1r enzyme in the C1 complex activates C1s proenzyme generating C1s enzyme. C1 complex is a non-covalent calcium-dependent complex of one C1q, two C1r and two C1s molecules. C1q binds by two or more of its six arms to the Fc domains of IgG or IgM. The binding of multiple arms to immune complexes causes the two C1r proteins in the complex (protease zymogens) to activate producing two proteases that cleave and activate the two C1s proenzymes in the complex. This activation of C1s proenzyme results in its cleavage into the two chain C1s enzyme with 58,000 and 28,000 dalton fragments. Activated C1s enzyme cleaves complement component C4 releasing C4a and initiating covalent attachment of C4b to the activating surface. Activated C1s also cleaves C2 and the larger fragment of C2 binds to the surface-attached C4b forming C4b,C2a, the C3/C5 convertase of the classical pathway.

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Form	Frozen liquid, 10 mM sodium phosphate, 145 mM NaCl, pH 7.2
Bio-activity	> 90 % C1s will bind with excess C1-INH
Molecular Mass	86 kDa (2 chains)
Purity	> 90 % by SDS PAGE (Note: C1s enzyme is 86,000 unreduced, but upon reduction runs as 58,000 and 28,000 chains on SDS-PAGE)
Notes	Use normal precautions for handling human blood products.
Storage	At -70 centigrade or below. Avoid freeze/thaw.
Concentration	1.0 mg/mL
Extinction Coefficient	A280 nm = 0.96 at 1.0 mg/mL for pure C1s

GENE INFORMATION

Official Symbol	Complement C1s
Synonyms	Complement C1s

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