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Product Information

C1 Esterase Inhibitor, from Human plasma

Product Number **C 2412**

Storage Temperature -70 °C

Product Description

Complement C1 Esterase Inhibitor (C1EI) is a plasma inhibitor and a member of the serine protease inhibitor (Serpine) superfamily. C1EI has been shown to inhibit components of the complement pathway (C1r and C1s), coagulation (Factors XIa and XIIa), plasmin, and kallikrein.^{1, 2} C1EI is a glycoprotein (34% by weight carbohydrate) with a single polypeptide chain.³ In the plasma, C1EI forms a loose association with C1r and C1s without cleavage. The C1q component of C1 binds to an IgG on a cell surface and apparently undergoes a conformational change to allow C1r to autoactivate by selective proteolytic cleavage. Active C1r then activates C1s by limited proteolysis. Activated C1r and C1s cleave C1EI and form an inactive enzyme-inhibitor complex, which causes dissociation of C1r and C1s from C1q. C1EI has an approximate molecular weight of 105 kDa.

The product is supplied in phosphate buffered saline, pH 7.4, (15 mM sodium phosphate and 135 mM sodium chloride).

Activity: C1 esterase inhibitor (C1EI) functional activity is determined by the inhibition of C1 (Product No. C 2660) activation of hemolytic C4 activity using purified C4 (Product No. C 3035) and C4-deficient guinea pig serum (Product No. C 1038). The C1 activity in the C4-deficient serum is inactivated by EDTA.⁴⁻⁷

Purity: ≥ 90% (SDS-PAGE)

Precautions and Disclaimer

This product is for laboratory use only. Please consult the Material Data Safety Sheet for information regarding hazards and safe handling practices.

Storage/Stability

Store at -70 °C or below. Repeated freezing and thawing is **not** recommended.

References

1. Oltvai, Z.N., et al., *Lab. Invest.*, **65**, 381-388 (1991).
2. Carreer, F.M.Z., *Eur. J. Clin. Chem. Clin. Biochem.*, **30**, 793-807 (1992).
3. Bock, S.C. et al., *Biochemistry*, **25**, 4292-4301 (1986).
4. Medicus, R.G. and Chapuis, R.M., *J. Immunol.*, **125**, 390-395 (1980).
5. Schifferli, J.A. and Steiger, G., *J. Immunol. Methods*, **76**, 283-288 (1985).
6. Gigli, I., et al., *Biochem. J.*, **157**, 541-548 (1976).
7. Cooper, N.R. and Müller-Eberhard, H.J., *Immunochem.*, **5**, 155-169 (1968).

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