SANTA CRUZ BIOTECHNOLOGY, INC.

Factor I (E-16): sc-69465

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The complement pathway is an important host defense system that contributes to both innate and acquired immunity. There are three pathways of complement activation: the classical pathway, lectin pathway and alternative pathway. Complement protein Factor I is a key serine protease that modulates the complement cascade by regulating the levels of C3 convertases. It circulates in plasma as a heavily N-glycosylated heterodimer made up of two disulfide linked chains, each carrying three N-linked oligosaccharide chains that may have both structural and functional roles in the interactions with the natural substrate and the cofactor during catalysis. Factor I is a serine protease with a high degree of specificity for C3b and C4b. It requires protein cofactors for cleavage of these complement proteins; Factor H, CR1 or MCP are required for C3b cleavage, and C4bp or CR1 are required for C4b cleavage.

REFERENCES

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2. Terado, T., et al. 2002. Conservation of the modular structure of complement Factor I through vertebrate evolution. Dev. Comp. Immunol. 26: 403-413.
3. Cunnion, K.M., et al. 2004 Cleavage of complement C3b to iC3b on the surface of *Staphylococcus aureus* is mediated by serum complement Factor I. Infect. Immun. 72: 2858-2863.
4. Fremeaux-Bacchi, V., et al. 2004. Complement Factor I: a susceptibility gene for atypical haemolytic uraemic syndrome. J. Med. Genet. 41: e84.
5. Genel, F., et al. 2005. Complement Factor I and immune complex glomerulonephritis. Scand. J. Infect. Dis. 37: 615-618.
6. Tsiftsoglou, S.A., et al. 2005. The catalytically active serine protease domain of human complement Factor I. Biochemistry 44: 6239-6249.
7. Grumach, A.S., et al. 2006. Recurrent infections in partial complement Factor I deficiency: evaluation of three generations of a Brazilian family. Clin. Exp. Immunol. 143: 297-304.
8. Liu, W., et al. 2006. Down-regulated expression of complement Factor I: A potential suppressive protein for gastric cancer identified by serum proteome analysis. Clin. Chim. Acta 377: 119-126.

CHROMOSOMAL LOCATION

Genetic locus: Cfi (mouse) mapping to 3 G3.

SOURCE

Factor I (E-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Factor I of mouse origin.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-69465 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Factor I (E-16) is recommended for detection of Factor I of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Factor I siRNA (m): sc-72878, Factor I shRNA Plasmid (m): sc-72878-SH and Factor I shRNA (m) Lentiviral Particles: sc-72878-V.

Molecular Weight of pro Factor I: 88 kDa.

Molecular Weight of Factor I heavy chain: 50 kDa.

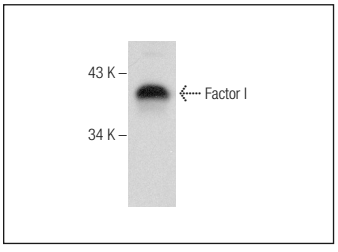
Molecular Weight of Factor I light chain: 38 kDa.

Positive Controls: mouse plasma whole cell lysate.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



Factor I (E-16): sc-69465. Western blot analysis of Factor I in mouse plasma.

RESEARCH USE

For research use only, not for use in diagnostic procedures.