SANTA CRUZ BIOTECHNOLOGY, INC.

Chymotrypsin (4E1): sc-80750

BACKGROUND

Chymotrypsin is a digestive enzyme that can perform proteolysis by cleaving peptides at the carboxyl side of tyrosine, tryptophan and phenylalanine, although over time it also hydrolyzes other amide bonds, especially those with leucine-donated carboxyls. Chymotrypsin cleaves peptide bonds by attacking the unreactive carbonyl group with a powerful nucleophile, the Serine 195 residue located in the active site of the enzyme, which momentarily becomes covalently bonded to the substrate to form an intermediate. Chymotrypsin is synthesized in the pancreas by protein biosynthesis as a precursor called chymotrypsinogen that is enzymatically inactive, but becomes active as a three polypeptide molecule that is interconnected by disulfide bonds.

REFERENCES

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3. Kostetskii, P.V. 2005. The volume and structure of the Chymotrypsin active site. Biofizika 50: 993-997.
4. Murakami, Y. and Hirata, A. 2005. Poly(ethylene glycol)-α-Chymotrypsin complex catalytically active in anhydrous isooctane. J. Biosci. Bioeng. 88: 441-443.
5. Matsumoto, M. and Kondo, K. 2005. Enhanced thermostability of α-Chymotrypsin enclosed in inorganic microcapsules. J. Biosci. Bioeng. 92: 197-199.
6. You, C.C., et al. 2005. Contrasting effects of exterior and interior hydrophobic moieties in the complexation of amino acid functionalized gold clusters with α-Chymotrypsin. Org. Lett. 7: 5685-5688.
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8. Hudáky, P. and Perczel, A. 2006. A self-stabilized model of the Chymotrypsin catalytic pocket. The energy profile of the overall catalytic cycle. Proteins 62: 749-759.
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CHROMOSOMAL LOCATION

Genetic locus: CTRC (human) mapping to 1p36.21; Ctrc (mouse) mapping to 4 E1.

SOURCE

Chymotrypsin (4E1) is a mouse monoclonal antibody raised against pancreatic Chymotrypsin of human 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 100 µg IgG_3 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Chymotrypsin (4E1) is recommended for detection of Chymotrypsin C of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for Chymotrypsin siRNA (h): sc-72906, Chymotrypsin siRNA (m): sc-72907, Chymotrypsin shRNA Plasmid (h): sc-72906-SH, Chymotrypsin shRNA Plasmid (m): sc-72907-SH, Chymotrypsin shRNA (h) Lentiviral Particles: sc-72906-V and Chymotrypsin shRNA (m) Lentiviral Particles: sc-72907-V.

Molecular Weight of Chymotrypsin: 34 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (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) Immunofluorescence: use goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.