SANTA CRUZ BIOTECHNOLOGY, INC.

Sucrase-Isomaltase (R-125): sc-99174

BACKGROUND

Sucrase-Isomaltase (SI) is a type II brush border membrane protein that plays an important role in the final stage of carbohydrate digestion. Sucrase-Isomaltase is a disaccharidase that catalyzes the hydrolysis of dietary sucrose and maltose and other products of starch digestion. The high degree of amino acid homology between isomaltase and sucrose indicate that the Sucrase-Isomaltase protein was evolved by partial gene duplication. The Sucrase-Isomaltase precursor is proteolytically cleaved when exposed to pancreatic proteases in the intestinal lumen and localizes to the apical membrane of adult intestinal enterocytes along the intestinal crypt-villus axis. Sucrase-Isomaltase protein deficiency results in osmotic diarrhea due to an inability to hydrolyze intestinal disaccharides into component monosaccharides. Congenital Sucrase-Isomaltase deficiency (CSID) is an autosomal recessive human disorder characterized by reduced activities of Sucrase-Isomaltase.

REFERENCES

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2. Hauri, H.P., et al. 1991. Protein traffic in intestinal epithelial cells. Semin. Cell Biol. 2: 355-364.
3. Wu, G.D., et al. 1992. Isolation and characterization of the human Sucrase-Isomaltase gene and demonstration of intestine-specific transcriptional elements. J. Biol. Chem. 267: 7863-7870.
4. Treem, W.R. 1995. Congenital Sucrase-Isomaltase deficiency. J. Pediatr. Gastroenterol. Nutr. 21: 1-14.
5. Traber, P.G. 1998. Control of gene expression in intestinal epithelial cells. Philos. Trans. R Soc. Lond. B Biol. Sci. 353: 911-914.
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CHROMOSOMAL LOCATION

Genetic locus: Si (rat) mapping to 2q32.

SOURCE

Sucrase-Isomaltase (R-125) is a rabbit polyclonal antibody raised against amino acids 841-965 mapping within an internal region of Sucrase-Isomaltase of rat origin.

PRODUCT

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

APPLICATIONS

Sucrase-Isomaltase (R-125) is recommended for detection of Sucrase-Isomaltase of 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).

Molecular Weight of Sucrase-Isomaltase precursor: 200 kDa.

Molecular Weight of mature Sucrase-Isomaltase: 143 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

STORAGE

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

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.