

Sucrase-Isomaltase (A-17): sc-27603

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 sucrase 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.

CHROMOSOMAL LOCATION

Genetic locus: SI (human) mapping to 3q26.1; Si (mouse) mapping to 3 E3.

SOURCE

Sucrase-Isomaltase (A-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Sucrase-Isomaltase of rat origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-27603 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Sucrase-Isomaltase (A-17) is recommended for detection of precursor and mature isomaltase isoform of Sucrase-Isomaltase of mouse, rat and human 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).

Sucrase-Isomaltase (A-17) is also recommended for detection of precursor and mature isomaltase isoform of Sucrase-Isomaltase in additional species, including canine.

Suitable for use as control antibody for Sucrase-Isomaltase siRNA (h): sc-72188, Sucrase-Isomaltase siRNA (m): sc-72189, Sucrase-Isomaltase shRNA Plasmid (h): sc-72188-SH, Sucrase-Isomaltase shRNA Plasmid (m): sc-72189-SH, Sucrase-Isomaltase shRNA (h) Lentiviral Particles: sc-72188-V and Sucrase-Isomaltase shRNA (m) Lentiviral Particles: sc-72189-V.

Molecular Weight of Sucrase-Isomaltase precursor: 200 kDa.

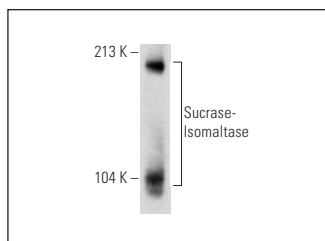
Molecular Weight of mature Sucrase-Isomaltase: 143 kDa.

Positive Controls: mouse small intestine extract: sc-364252.

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



Sucrase-Isomaltase (A-17): sc-27603. Western blot analysis of Sucrase-Isomaltase expression in mouse small intestine tissue extract.

SELECT PRODUCT CITATIONS

1. Gracz, A.D., et al. 2010. Sox9 expression marks a subset of CD24-expressing small intestine epithelial stem cells that form organoids *in vitro*. *Am. J. Physiol. Gastrointest. Liver Physiol.* 298: G590-G600.
2. Muncan, V., et al. 2011. Blimp1 regulates the transition of neonatal to adult intestinal epithelium. *Nat. Commun.* 2: 452.
3. Ramalingam, S., et al. 2012. Distinct levels of Sox9 expression mark colon epithelial stem cells that form colonoids in culture. *Am. J. Physiol. Gastrointest. Liver Physiol.* 302: G10-G20.

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.



Try **Sucrase-Isomaltase (A-12): sc-393424** or **Sucrase-Isomaltase (C-8): sc-393470**, our highly recommended monoclonal alternatives to Sucrase-Isomaltase (A-17).