SANTA CRUZ BIOTECHNOLOGY, INC.

secretin receptor (3H1): sc-293316

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Secretin, a 27-amino acid hormone, stimulates fluid and electrolyte secretion in the gastrointestinal tract, activates tyrosine hydroxylase activity in the central nervous system, and affects cardiac and renal functions. Secretin specifically binds to the secretin receptor, a member of the G protein-coupled receptor (GPCR) family 2 (also designated family B). GPCRs are characterized by seven transmembrane regions and a common signaling mechanism, by which they interact with G proteins to regulate the activity of intracellular second messengers, such as cyclic AMP, inositol phosphates, diacylglycerol, and calcium ions. The secretin receptor contains arginine residues at positions 339 and 343, which may be responsible for surface presentation and/or receptor stability, and a lysine residue at position 323, which is necessary for proper G protein-coupling and subsequent cAMP accumulation. The gene encoding the human secretin receptor maps to chromosome 2q14.2, and has significant expression in pancreas, kidney, small intestine, lung, and liver.

REFERENCES

1. Patel, D.R., Kong, Y. and Sreedharan, S.P. 1995. Molecular cloning and expression of a human secretin receptor. Mol. Pharmacol. 47: 467-473.
2. Mark, H.F. and Chow, B.K. 1995. Localization of the gene encoding the secretin receptor, SCTR, on human chromosome 2q14.1 by fluorescence *in situ* hybridization and chromosome morphometry. Genomics 29: 817-818.
3. Shetzline, M.A., Premont, R.T., Walker, J.K., Vigna, S.R. and Caron, M.G. 1998. A role for receptor kinases in the regulation of class II G protein-coupled receptors. Phosphorylation and desensitization of the secretin receptor. J. Biol. Chem. 273: 6756-6762.
4. Pang, R.T., Ng, S.S., Cheng, C.H., Holtmann, M.H., Miller, L.J. and Chow, B.K. 1999. Role of N-linked glycosylation on the function and expression of the human secretin receptor. Endocrinology 140: 5102-5111.
5. Di Paolo, E., Vilardaga, J.P., Petry, H., Moguilevsky, N., Bollen, A., Robberecht, P. and Waelbroeck, M. 1999. Role of charged amino acids conserved in the vasoactive intestinal polypeptide/secretin family of receptors on the secretin receptor functionality. Peptides 20: 1187-1193.
6. Harmar, A.J. 2001. Family-B G protein-coupled receptors. Genome Biol. 2: REVIEWS3013.
7. Chan, K.Y., Pang, R.T. and Chow, B.K. 2001. Functional segregation of the highly conserved basic motifs within the third endoloop of the human secretin receptor. Endocrinology 142: 3926-3934.

CHROMOSOMAL LOCATION

Genetic locus: SCTR (human) mapping to 2q14.2.

SOURCE

secretin receptor (3H1) is a mouse monoclonal antibody raised against amino acids 32-141 of secretin receptor of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

secretin receptor (3H1) is recommended for detection of secretin receptor of 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for secretin receptor siRNA (h): sc-40193, secretin receptor shRNA Plasmid (h): sc-40193-SH and secretin receptor shRNA (h) Lentiviral Particles: sc-40193-V.

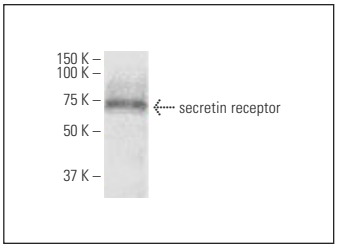
Molecular Weight of secretin receptor: 16 kDa.

Positive Controls: human stomach extract: sc-363780.

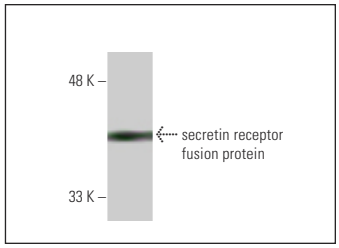
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



secretin receptor (3H1): sc-293316. Western blot analysis of secretin receptor expression in human stomach tissue extract.



secretin receptor (3H1): sc-293316. Western blot analysis of human recombinant secretin receptor fusion protein.

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 for detailed protocols and support products.