SANTA CRUZ BIOTECHNOLOGY, INC.

ETBR (5H2): sc-293198

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Endothelin receptor B (ETBR), also known as EDNRB, ETB, ETRB, HSCR and HSCR2, is a member of the guanine-binding, regulatory protein-coupled receptor family. Three isoforms of ETBR exist called isoform 1, isoform 2 and δ 3. ETBR is involved in the regulation of sodium excretion and glomular filtration rate (GFR). ETBR plays a role in the normal development of the neural crest-derived cell lineages, epidermal melanocytes and enteric neurons. ETBR is expressed in lung, kidney, placenta, skeletal muscle and stem villi vessels. Both of the ET receptors, ETAR and ETBR, are activated by ET1, which results in inhibition of active lens sodium-potassium transport. Activation of the ET receptors also causes an increase in cytoplasmic calcium concentration in cultured lens epithelial cells. ETBR deficiency causes early onset dysfunction of the kidney, characterized by reduced sodium excretion, decreased GFR and slightly elevated blood pressure. Mutations in the gene encoding ETBR produce congenital aganglionic megacolon and pigment abnormalities. The multigenic disorder, Hirschsprung's disease type 2, is also due to a mutation in the ETBR gene.

REFERENCES

1. Adachi, M., et al. 1991. Cloning and characterization of cDNA encoding human A-type endothelin receptor. Biochem. Biophys. Res. Commun. 180: 1265-1272.
2. Puffenberger, E.G., et al. 1994. A missense mutation of the endothelin B receptor gene in multigenic Hirschsprung's disease. Cell 79: 1257-1266.
3. Gariepy, C.E., et al. 1996. Null mutation of endothelin receptor type B gene in spotting lethal rats causes aganglionic megacolon and white coat color. Proc. Natl. Acad. Sci. USA 93: 867-872.
4. Hocher, B., et al. 2001. Impaired sodium excretion, decreased glomular filtration rate and evevated blood pressure in endothelin receptor type B deficient rats. J. Mol. Med. 78: 633-641.
5. Okafor, M., et al. 2001. The inhibatory influence of endothelin on active sodium-potassium transport in porcine lens. Invest. Ophthalmol. Vis. Sci. 42: 1018-1023.
6. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 131244. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
7. LocusLink Report (LocusID: 1910). http://www.ncbi.nlm.nih.gov/LocusLink/

CHROMOSOMAL LOCATION

Genetic locus: EDNRB (human) mapping to 13q22.3.

SOURCE

ETBR (5H2) is a mouse monoclonal antibody raised against a partial recombinant protein mapping within amino acids 27-101 of ETBR 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

ETBR (5H2) is recommended for detection of ETBR 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).

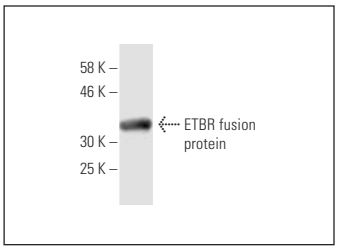
Suitable for use as control antibody for ETBR siRNA (h): sc-39962, ETBR shRNA Plasmid (h): sc-39962-SH and ETBR shRNA (h) Lentiviral Particles: sc-39962-V.

Molecular Weight of ETBR: 50 kDa.

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



ETBR (5H2): sc-293198. Western blot analysis of human recombinant ETBR 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.