

TXA2R (A-14): sc-31261

BACKGROUND

Thromboxane A2 (TXA2), the major cyclooxygenase (COX) product of arachidonic acid, stimulates platelet aggregation and is a potent vasoconstrictor. TXA2R has been implicated in several processes in normal kidney physiology as well as in myocardial infarction, atherosclerosis and bronchial asthma. TXA2 mediates its effects through the TXA2 receptor (TXA2R), a G protein-coupled receptor that activates phospholipase C (PLC) to mobilize intracellular calcium stores. Alternatively, TXA2R activates the MAP kinase pathway in response to dibutyl cyclic AMP (dbcAMP). The human TXA2R gene maps to chromosome 19p13.3 and is alternatively spliced to produce proteins which differ in the carboxy termini. TXA2R is expressed in platelets, endothelium, placenta, vascular smooth muscles and the renal cortex. Mutations in the gene encoding TXA2R lead to several bleeding disorders due to either impaired coupling between the receptor and PLC or impaired binding to TXA2. Also, the TXA2R protein may be involved in mediating renal damage in disease states, controlling the initiation and/or progression of labor in women, and providing therapeutic value for treatment of acute pancreatitis.

REFERENCES

- Swanson, M.L., et al. 1992. The expression of thromboxane A2 synthase and thromboxane A2 receptor gene in human uterus. *Biol. Reprod.* 47: 105-117.
- Reilly, M., et al. 1993. Cellular activation by thromboxane A2 and other eicosanoids. *Eur. Heart J.* 14: 88-93.
- Nusing, R.M., et al. 1993. Characterization and chromosomal mapping of the human thromboxane A2 receptor gene. *J. Biol. Chem.* 268: 25253-25259.
- Raychowdhury, M.K., et al. 1994. Alternative splicing produces a divergent cytoplasmic tail in the human endothelial thromboxane A2 receptor. *J. Biol. Chem.* 269: 19256-19261.
- Hirata, T., et al. 1996. Two thromboxane A2 receptor isoforms in human platelets. Opposite coupling to adenylyl cyclase with different sensitivity to Arg60 to Leu mutation. *J. Clin. Invest.* 97: 949-956.
- Nakahata, N., et al. 1998. Thromboxane A2 receptor-mediated signal transduction in glial cells. *Nippon Yakurigaku Zasshi* 112: 113-117.
- Thomas, D.W., et al. 1998. A genetic approach for studying the role of thromboxane A2 in the kidney. *Kidney Int. Suppl.* 67: 84-87.
- Parent, J.L., et al. 1999. Internalization of the TXA2 receptor alpha and beta isoforms. Role of the differentially spliced cooh terminus in agonist-promoted receptor internalization. *J. Biol. Chem.* 274: 8941-8948.
- Becker, K.P., et al. 1999. Coupling of thromboxane A2 receptor isoforms to Galpha13: effects on ligand binding and signalling. *Biochim. Biophys. Acta* 1450: 288-296.

CHROMOSOMAL LOCATION

Genetic locus: TBXA2R (human) mapping to 19p13.3.

RESEARCH USE

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

SOURCE

TXA2R (A-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an extracellular domain of TXA2R of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-31261 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

TXA2R (A-14) is recommended for detection of TXA2R long and short isoforms of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

Suitable for use as control antibody for TXA2R siRNA (h): sc-40226, TXA2R shRNA Plasmid (h): sc-40226-SH and TXA2R shRNA (h) Lentiviral Particles: sc-40226-V.

Molecular Weight of TXA2R: 55/58 kDa.

Positive Controls: HUV-EC-C + VEGF cell lysate: sc-24709, ECV304 cell lysate: sc-2269 or JAR cell lysate: sc-2276.

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) 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.

STORAGE

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

PROTOCOLS

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

MONOS
Satisfaction
Guaranteed

Try **TXA2R (G-2): sc-515033**, our highly recommended monoclonal alternative to TXA2R (A-14).