SANTA CRUZ BIOTECHNOLOGY, INC.

EPR1 (C-19): sc-130137

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Survivin is an anti-apoptotic microtubule-associated protein that is expressed during the G_2/M phase of the cell cycle and is downregulated during cancer growth. The gene encoding Survivin has an anti-sense strand which encodes the tumor-associated protein EPR1 (effector cell peptidase receptor 1). Expressed on smooth muscle and vascular endothelial cells, EPR1 functions as a receptor for the coagulation protein Factor X. Via its interaction with Factor X, EPR1 plays a pivotal role in coagulation cascades, generation of intracellular second messengers, signal transduction, endothelial wall formation and modulation of cytokine gene expression. High levels of EPR1 expression are associated with a variety of cancers, including acute leukemia and colon cancer, suggesting that cancer-induced downregulation of Survivin is correlated with increased expression of EPR1, which may participate in cancer growth and metastasis.

REFERENCES

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2. Bouchard, B.A., et al. 1997. Effector cell protease receptor-1, a platelet activation-dependent membrane protein, regulates prothrombinase-catalyzed thrombin generation. J. Biol. Chem. 272: 9244-9251.
3. Herbert, J., et al. 1998. Effector protease receptor 1 mediates the mitogenic activity of factor Xa for vascular smooth muscle cells *in vitro* and *in vivo*. J. Clin. Invest. 101: 993-1000.
4. Bono, F., et al. 2000. Factor Xa activates endothelial cells by a receptor cascade between EPR-1 and PAR-2. Arterioscler. Thromb. Vasc. Biol. 20: E107-E112.
5. Shinozawa, I., et al. 2000. Disturbed expression of the anti-apoptosis gene, survivin, and EPR-1 in hematological malignancies. Leuk. Res. 24: 965-970.
6. Blanc-Brude, O.P., et al. 2001. Factor Xa is a fibroblast mitogen via binding to effector-cell protease receptor-1 and autocrine release of PDGF. Am. J. Physiol., Cell Physiol. 281: C681-C689.
7. Yamamoto, T., et al. 2002. Downregulation of survivin expression by induction of the effector cell protease receptor-1 reduces tumor growth potential and results in an increased sensitivity to anticancer agents in human colon cancer. Eur. J. Cancer 38: 2316-2324.
8. Yao, X.Q., et al. 2004. Significance of effector protease receptor-1 expression and its relationship with proliferation and apoptotic index in patients with primary advanced gastric adenocarcinoma. World J. Gastroenterol. 10: 1262-1267.
9. Oto, O.A., et al. 2007. Survivin and EPR1 expression in acute leukemias: prognostic significance and review of the literature. Leuk. Res. 31: 1495-1501.

STORAGE

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

CHROMOSOMAL LOCATION

Genetic locus: EPR1 (human) mapping to 17q25.3.

SOURCE

EPR1 (C-19) is a purified rabbit polyclonal antibody raised against a peptide mapping near the C-terminus of EPR1 of human origin.

PRODUCT

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

APPLICATIONS

EPR1 (C-19) is recommended for detection of EPR1 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).

Molecular Weight of EPR1: 65 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).

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.