

ES (C-12): sc-33499

BACKGROUND

Estrone sulfatase (ES) is an enzymatic homodimer associated with the endoplasmic reticulum membrane, stimulated by retinoids, and responsible for the conversion of sulfated steroid precursors into bioactive estrogens during pregnancy. High expression levels have been reported in human breast carcinoma and acute promyelocytic leukemia, as ES supports tumor growth. Therefore, ES is currently a potential drug target in the treatment of estrogen- and androgen-dependent diseases. Many studies have reported on the effects of reversible and irreversible ES activity inhibition from a wide array of molecules, though the little is known about the regulation of ES expression or activity. Mutations in the ES gene result in X-linked ichthyosis, a diskernatinization disorder characterized by the presence of prominent scales.

REFERENCES

- Rodig, H., et al. 2002. Distribution of estrone sulfatase in rat brain determined by *in vitro* autoradiography with 16α -[^{18}F]fluoroestradiol-3,17 β -disulfamate. *Appl. Radiat. Isot.* 56: 773-780.
- Hernandez-Guzman, F.G., et al. 2003. Structure of human estrone sulfatase suggests functional roles of membrane association. *J. Biol. Chem.* 278: 22989-22997.
- Walter, G., et al. 2004. 2-phenylindole sulfamates: inhibitors of steroid sulfatase with antiproliferative activity in MCF-7 breast cancer cells. *J. Steroid. Biochem. Mol. Biol.* 88: 409-420.
- Utsunomiya, H., et al. 2004. Steroid sulfatase and estrogen sulfotransferase in human endometrial carcinoma. *Clin. Cancer Res.* 10: 5850-5856.
- Billich, A., et al. 2004. Confocal fluorescence detection expanded to UV excitation: the first continuous fluorimetric assay of human steroid sulfatase in nanoliter volume. *Assay Drug Dev. Technol.* 2: 21-30.
- Hughes, P.J., et al. 2005. Retinoid-mediated stimulation of steroid sulfatase activity in myeloid leukemic cell lines requires RAR α and RXR and involves the phosphoinositide 3-kinase and ERK-MAP kinase pathways. *J. Cell. Biochem.* 97: 327-350.
- Reed, M.J., et al. 2005. Steroid sulfatase: molecular biology, regulation, and inhibition. *Endocr. Rev.* 26: 171-202.

CHROMOSOMAL LOCATION

Genetic locus: STS (human) mapping to Xp22.31.

SOURCE

ES (C-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of Estrone Sulfatase 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-33499 P, (100 μg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

ES (C-12) is recommended for detection of ES 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 ES siRNA (h): sc-45269, ES shRNA Plasmid (h): sc-45269-SH and ES shRNA (h) Lentiviral Particles: sc-45269-V.

Molecular Weight of ES: 65 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, MDA-MB-231 cell lysate: sc-2232 or MDA-MB-468 cell lysate: sc-2282.

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.

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.