SANTA CRUZ BIOTECHNOLOGY, INC.

17β-HSD (P-15): sc-26968

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

17β-hydroxysteroid dehydrogenase type 1 (17β-HSD) catalyzes the final step in the formation of estradiol and testosterone from estrone and androstenedione, respectively. Ovarian granulosa cells and breast tissue both express 17β-HSD. Other tissues that express 17β-HSD include testis, placenta, uterus, prostate and adipose tissue. 17β-HSD functions as a homodimer and prefers NADP(H) over NAD(H) for oxidation and reduction. The gene encoding human 17β-HSD maps to chromosome 17q12-q21. The importance of 17β-HSD to estradiol production suggests the specific inhibition of 17β-HSD may aid in breast cancer therapy. Breast cancer patients with an amplification of 17β-HSD expression statistically have a worse outcome than those without. 17β-HSD amplification in tamoxifen-treated patients correlates to decreased breast cancer survival.

REFERENCES

1. Luu-The, V., et al. 1990. Structure of two in tandem human 17β-hydroxysteroid dehydrogenase genes. Mol. Endocrinol. 4: 268-275.
2. Winqvist, R., et al. 1990. The gene for 17β-hydroxysteroid dehydrogenase maps to human chromosome 17, bands q12-q21, and shows an RFLP with ScaI. Hum. Genet. 85: 473-476.
3. Lin, S.X., et al. 1992. Subunit identity of the dimeric 17β-hydroxysteroid dehydrogenase from human placenta. J. Biol. Chem. 267: 16182-16187.
4. Poutanen, M., et al. 1993. Differential estrogen substrate specificities for transiently expressed human placental 17β-hydroxysteroid dehydrogenase and an endogenous enzyme expressed in cultured COS-m6 cells. Endocrinology 133: 2639-2644.
5. Luu-The, V., et al. 1995. Characteristics of human types 1, 2 and 3 17β-hydroxysteroid dehydrogenase activities: oxidation/reduction and inhibition. J. Steroid Biochem. Mol. Biol. 55: 581-587.
6. Vihko, P., et al. 2001. Structure and function of 17β-hydroxysteroid dehydrogenase type 1 and type 2. Mol. Cell. Endocrinol. 171: 71-76.

CHROMOSOMAL LOCATION

Genetic locus: Hsd17b1 (mouse) mapping to 11 D.

SOURCE

17β-HSD (P-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of 17β-HSD of mouse 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-26968 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

17β-HSD (P-15) is recommended for detection of 17β-HSD of mouse and rat 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 17β-HSD siRNA (m): sc-41382.

Molecular Weight of 17β-HSD: 34.5 kDa.

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.