SANTA CRUZ BIOTECHNOLOGY, INC.

17β-HSD (F-9): sc-365888

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 17q21.2. 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 17 β-hydroxysteroid dehydrogenase genes. Mol. Endocrinol. 4: 268-275.
2. Winqvist, R., et al. 1990. The gene for 17 β-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 17 β-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 17 β-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 17 β-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 17 β-hydroxysteroid dehydrogenase type 1 and type 2. Mol. Cell. Endocrinol. 171: 71-76.
7. Gunnarsson, C., et al. 2003. Amplification of HSD17B1 and ERBB2 in primary breast cancer. Oncogene 22: 34-40.

CHROMOSOMAL LOCATION

Genetic locus: HSD17B1 (human) mapping to 17q21.2.

SOURCE

17β-HSD (F-9) is a mouse monoclonal antibody raised against amino acids 171-328 mapping at the C-terminus of 17β-HSD of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

17β-HSD (F-9) is recommended for detection of 17β-HSD of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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 (h): sc-41381, 17β-HSD shRNA Plasmid (h): sc-41381-SH and 17β-HSD shRNA (h) Lentiviral Particles: sc-41381-V.

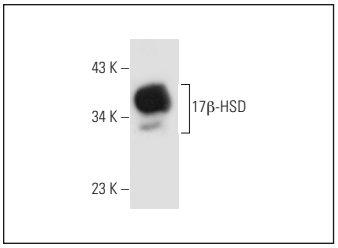
Molecular Weight of 17β-HSD: 35 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204 or BT-20 cell lysate: sc-2223.

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). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



17β-HSD (F-9): sc-365888. Western blot analysis of 17β-HSD expression in BT-20 whole cell lysate.

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.