

17 β -HSD (H-158): sc-32871

BACKGROUND

17 β -hydroxysteroid dehydrogenase type 1 (17 β -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 17 β -HSD. Other tissues that express 17 β -HSD include testis, placenta, uterus, prostate and adipose tissue. 17 β -HSD functions as a homodimer and prefers NADP(H) over NAD(H) for oxidation and reduction. The gene encoding human 17 β -HSD maps to chromosome 17q21.2. The importance of 17 β -HSD to estradiol production suggests the specific inhibition of 17 β -HSD may aid in breast cancer therapy. Breast cancer patients with an amplification of 17 β -HSD expression statistically have a worse outcome than those without. 17 β -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. Wingqvist, R., et al. 1990. The gene for 17 β -hydroxysteroid dehydrogenase maps to human chromosome 17, bands q12-q21, and shows an RFLP with *Scal*. *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; Hsd17b1 (mouse) mapping to 11 D.

SOURCE

17 β -HSD (H-158) is a rabbit polyclonal antibody raised against amino acids 171-328 mapping at the C-terminus of 17 β -HSD of human origin.

PRODUCT

Each vial contains 200 μ g IgG 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

17 β -HSD (H-158) is recommended for detection of 17 β -HSD of human and, to a lesser extent, mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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 17 β -HSD siRNA (h): sc-41381, 17 β -HSD siRNA (m): 41382, 17 β -HSD shRNA Plasmid (h): sc-41381-SH, 17 β -HSD shRNA Plasmid (m): sc-41382-SH, 17 β -HSD shRNA (h) Lentiviral Particles: sc-41381-V and 17 β -HSD shRNA (m) Lentiviral Particles: sc-41382-V.

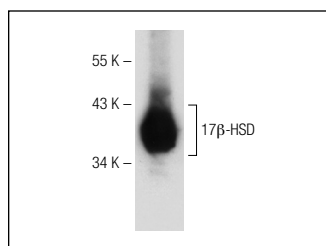
Molecular Weight of 17 β -HSD: 34.5 kDa.

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

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). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



17 β -HSD (H-158): sc-32871. Western blot analysis of 17 β -HSD expression in BT-20 whole cell lysate.

RESEARCH USE

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

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Try **17 β -HSD (D-8): sc-373902** or **17 β -HSD (F-9): sc-365888**, our highly recommended monoclonal alternatives to 17 β -HSD (H-158).