

17 β -HSD (D-8): sc-373902

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.

CHROMOSOMAL LOCATION

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

SOURCE

17 β -HSD (D-8) is a mouse monoclonal 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 IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

17 β -HSD (D-8) is available conjugated to agarose (sc-373902 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-373902 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-373902 PE), fluorescein (sc-373902 FITC), Alexa Fluor[®] 488 (sc-373902 AF488), Alexa Fluor[®] 546 (sc-373902 AF546), Alexa Fluor[®] 594 (sc-373902 AF594) or Alexa Fluor[®] 647 (sc-373902 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-373902 AF680) or Alexa Fluor[®] 790 (sc-373902 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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RESEARCH USE

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

APPLICATIONS

17 β -HSD (D-8) is recommended for detection of 17 β -HSD of human origin by Western Blotting (starting dilution 1:100, 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), immunohistochemistry (including paraffin-embedded sections) (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 shRNA Plasmid (h): sc-41381-SH and 17 β -HSD shRNA (h) Lentiviral Particles: sc-41381-V.

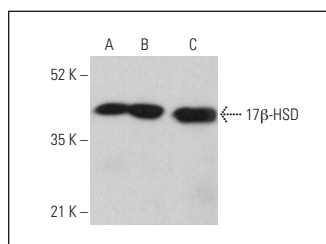
Molecular Weight of 17 β -HSD: 35 kDa.

Positive Controls: SK-BR-3 cell lysate: sc-2218, MCF7 whole cell lysate: sc-2206 or BT-20 cell lysate: sc-2223.

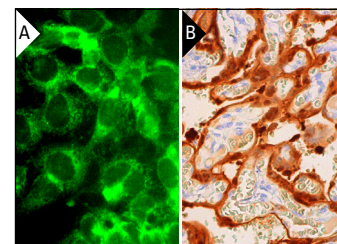
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG κ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



17 β -HSD (D-8): sc-373902. Western blot analysis of 17 β -HSD expression in SK-BR-3 (A), BT-20 (B) and MCF7 (C) whole cell lysates. Detection reagent used: m-IgG κ BP-HRP: sc-516102.



17 β -HSD (D-8): sc-373902. Immunofluorescence staining of formalin-fixed Hep G2 cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing cytoplasmic and nuclear staining of trophoblastic cells (B).

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 for detailed protocols and support products.