SANTA CRUZ BIOTECHNOLOGY, INC.

17β-HSD (D-8): sc-373902

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.

CHROMOSOMAL LOCATION

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

SOURCE

17β-HSD (D-8) 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_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

17β-HSD (D-8) is available conjugated to agarose (sc-373902 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-373902 HRP), 200 µg/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 µg/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 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

17β-HSD (D-8) 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), 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 17β-HSD siRNA (h): sc-41381, 17β-HSD shRNA Plasmid (h): sc-41381-SH and 17β-HSD shRNA (h) Lentiviral Particles: sc-41381-V.

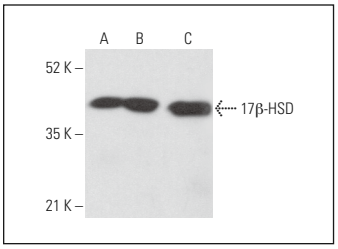
Molecular Weight of 17β-HSD: 35 kDa.

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

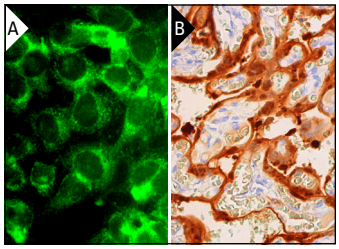
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



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



17β-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**).

SELECT PRODUCT CITATIONS

1. Santos, D., et al. 2021. Multi-parametric portfolio to assess the fitness and gonadal maturation in four key reproductive phases of brown trout. Animals 11: 1290.
2. Zhou, J., et al. 2023. SP1 impacts the primordial to primary follicle transition by regulating cholesterol metabolism in granulosa cells. FASEB J. 37: e22767.
3. Bueno, L.M., et al. 2024. Testicular regression and recrudescence in the bat *Eptesicus furinalis:* morpho-physiological variations and hormonal signaling pathways. Anat. Rec. 307: 2875-2890.

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.