SANTA CRUZ BIOTECHNOLOGY, INC.

17β-HSD2 (H-12): sc-373990

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

17β-HSD2 (17β hydroxysteroid dehydrogenase type 2) belongs to the 17β-HSD family of proteins that regulate the availability of steroids within a tissue. 17β-HSD2 converts active steroids to their inactive form through its oxidative activity. It is a key player in the inactivation of Estradiol and testosterone. Due to the affects that 17β-HSD2 has on the availability of estrogen, it has been extensively investigated for playing a possible role in breast tumor development, colon cancer development and the pathophysiology of endometriosis. 17β-HSD2 is predominantly expressed in the placenta, endometrium and prostate but can also be found in the liver, small intestine, and kidney. 17β-HSD2 is a membrane bound protein. Tibolone, a treatment used for climacteric symptoms in menopausal women, functions in part by activating 17β-HSD2.

REFERENCES

1. Akinola, L.A., et al. 1996. Cloning of rat 17β-hydroxysteroid dehydrogenase type 2 and characterization of tissue distribution and catalytic activity of rat type 1 and type 2 enzymes. Endocrinology 137: 1572-1579.
2. Zeitoun, K., et al. 1998. Deficient 17β-hydroxysteroid dehydrogenase type 2 expression in endometriosis: failure to metabolize 17β-estradiol. J. Clin. Endocrinol. Metab. 83: 4474-4480.
3. English, M.A., et al. 2001. Estrogen metabolism and malignancy: analysis of the expression and function of 17β-hydroxysteroid dehydrogenases in colonic cancer. Mol. Cell. Endocrinol. 171: 53-60.
4. Cheng, Y.H., et al. 2006. SP1 and SP3 mediate progesterone-dependent induction of the 17β hydroxysteroid dehydrogenase type 2 gene in human endometrium. Biol. Reprod. 75: 605-614.
5. Day, J.M., et al. 2006. 17β-hydroxysteroid dehydrogenase type 1 and type 2: association between mRNA expression and activity in cell lines. Mol. Cell. Endocrinol. 248: 246-249.
6. Jansson, A., et al. 2006. Proliferative responses to altered 17β-hydroxysteroid dehydrogenase (17HSD) type 2 expression in human breast cancer cells are dependent on endogenous expression of 17HSD type 1 and the oestradiol receptors. Endocr. Relat. Cancer 13: 875-884.
7. Purohit, A., et al. 2006. The regulation and inhibition of 17β-hydroxysteroid dehydrogenase in breast cancer. Mol. Cell. Endocrinol. 248: 199-203.
8. Raobaikady, B., et al. 2007. Tibolone and its δ-4, 7α-methyl norethisterone metabolite are reversible inhibitors of human aromatase. J. Steroid Biochem. Mol. Biol. 104: 154-160.

CHROMOSOMAL LOCATION

Genetic locus: HSD17B2 (human) mapping to 16q23.3.

SOURCE

17β-HSD2 (H-12) is a mouse monoclonal antibody raised against amino acids 266-375 mapping near the C-terminus of 17β-HSD2 of human origin.

RESEARCH USE

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

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.

APPLICATIONS

17β-HSD2 (H-12) is recommended for detection of 17β-HSD2 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-HSD2 siRNA (h): sc-61914, 17β-HSD2 shRNA Plasmid (h): sc-61914-SH and 17β-HSD2 shRNA (h) Lentiviral Particles: sc-61914-V.

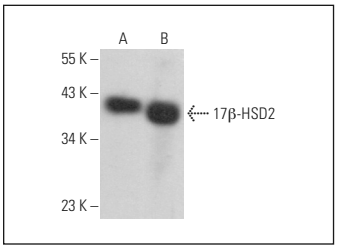
Molecular Weight of 17β-HSD2: 43 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227 or human liver extract: sc-363766.

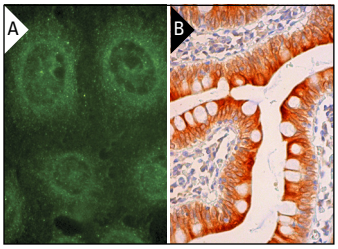
RECOMMENDED SUPPORT REAGENTS

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-HSD2 (H-12): sc-373990. Western blot analysis of 17β-HSD2 expression in Hep G2 whole cell lysate (**A**) and human liver tissue extract (**B**).



17β-HSD2 (H-12): sc-373990. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human small intestine tissue showing cytoplasmic and membrane staining of glandular cells (**B**).

STORAGE

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