

# 17 $\beta$ -HSD2 (H-110): sc-135041

## BACKGROUND

17 $\beta$ -HSD2 (17 $\beta$ -hydroxysteroid dehydrogenase type 2) belongs to the 17 $\beta$ -HSD family of proteins that regulate the availability of steroids within a tissue. 17 $\beta$ -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 effects that 17 $\beta$ -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. 17 $\beta$ -HSD2 is predominantly expressed in the placenta, endometrium and prostate but can also be found in the liver, small intestine and kidney. 17 $\beta$ -HSD2 is a membrane bound protein. Tibolone, a treatment used for climacteric symptoms in menopausal women, functions in part by activating 17 $\beta$ -HSD2.

## REFERENCES

1. Akinola, L.A., et al. 1996. Cloning of rat 17 $\beta$ -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 17 $\beta$ -hydroxysteroid dehydrogenase type 2 expression in endometriosis: failure to metabolize 17- $\beta$  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 17 $\beta$ -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 17 $\beta$ -hydroxysteroid dehydrogenase type 2 gene in human endometrium. *Biol. Reprod.* 75: 605-614.
5. Day, J.M., et al. 2006. 17 $\beta$ -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 17 $\beta$ -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 17 $\beta$ -hydroxysteroid dehydrogenase in breast cancer. *Mol. Cell. Endocrinol.* 248:199-203.
8. Raobakady, B. et al. 2007. Tibolone and its  $\delta$ -4, 7 $\alpha$ -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

17 $\beta$ -HSD2 (H-110) is a rabbit polyclonal antibody raised against amino acids 266-375 mapping near the C-terminus of 17 $\beta$ -HSD2 of human origin.

## RESEARCH USE

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

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

17 $\beta$ -HSD2 (H-110) is recommended for detection of 17 $\beta$ -HSD2 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ 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 $\beta$ -HSD2 siRNA (h): sc-61914, 17 $\beta$ -HSD2 shRNA Plasmid (h): sc-61914-SH and 17 $\beta$ -HSD2 shRNA (h) Lentiviral Particles: sc-61914-V.

Molecular Weight of 17 $\beta$ -HSD2: 43 kDa.

## 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.

## 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](http://www.scbt.com) or our catalog for detailed protocols and support products.

**MONOS**  
Satisfaction  
Guaranteed

Try **17 $\beta$ -HSD2 (E-7): sc-374150** or **17 $\beta$ -HSD2 (H-12): sc-373990**, our highly recommended monoclonal alternatives to 17 $\beta$ -HSD2 (H-110).