SANTA CRUZ BIOTECHNOLOGY, INC.

17β-HSD3 (H-125): sc-135043

The Power to Question

BACKGROUND

17β-HSD3 (17β-hydroxysteroid dehydrogenase type 3) belongs to the 17β-HSD family of proteins that regulate the availability of steroids within various tissues throughout the body. 17β-HSD3 is expressed predominantly in the testis. It is an NADPH-dependent, membrane-bound enzyme. 17β-HSD3 converts inactive steroids to their active form through its reductive activity. More specifically, 17β-HSD3 catalyzes the conversion of androstenedione to testosterone in the testis. The production of testosterone is necessary for male sex differentiation. Mutations in the gene that encodes this protein can result in an autosomal recessive male to female sex reversal. A deficiency of 17β-HSD3 results in a defect in the biosynthesis of testosterone. 17β-HSD3 inhibitors include 1,4-androstadiene-1,6,17-trione, androsterone 3β-substituted derivatives, glycyrrhizin, glycyrrhetinic acid, losulazine, amphetamine, methotrexate and S-petasine.

REFERENCES

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3. Spires, T.E., et al. 2005. Identification of novel functional inhibitors of 17β-hydroxysteroid dehydrogenase type III (17β-HSD3). Prostate 65: 159-170.
4. Fink, B.E., et al. 2006. Identification of a novel series of tetrahydrodibenzazocines as inhibitors of 17β-hydroxysteroid dehydrogenase type 3. Bioorg. Med. Chem. Lett. 16: 1532-1536.
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6. Luu-The, V., et al. 2006. Characterization of type 12 17β-hydroxysteroid dehydrogenase, an isoform of type 3 17β-hydroxysteroid dehydrogenase responsible for Estradiol formation in women. Mol. Endocrinol. 20: 437-443.
7. Purohit, A., et al. 2006. The regulation and inhibition of 17β-hydroxysteroid dehydrogenase in breast cancer. Mol. Cell. Endocrinol. 248: 199-203.
8. Lota, R.K. et al. 2006. Synthesis, biochemical evaluation and rationalisation of the inhibitory activity of a series of 4-hydroxyphenyl ketones as potential inhibitors of 17β-hydroxysteroid dehydrogenase type 3 (17β-HSD3). Bioorg. Med. Chem. Lett. 16: 4519-4522.
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CHROMOSOMAL LOCATION

Genetic locus: HSD17B3 (human) mapping to 9q22.32.

STORAGE

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

SOURCE

17β-HSD3 (H-125) is a rabbit polyclonal antibody raised against amino acids 186-310 mapping at the C-terminus of 17β-HSD3 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

17β-HSD3 (H-125) is recommended for detection of 17β-HSD3 of human origin by Western Blotting (starting dilution 1:200, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for 17β-HSD3 siRNA (h): sc-61916, 17β-HSD3 shRNA Plasmid (h): sc-61916-SH and 17β-HSD3 shRNA (h) Lentiviral Particles: sc-61916-V.

Molecular Weight of 17β-HSD3: 35 kDa.

Positive Controls: DU 145 cell lysate: sc-2268 or HUV-EC-C + VEGF cell lysate: sc-24709.

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.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.