SANTA CRUZ BIOTECHNOLOGY, INC.

3β-HSD (H-143): sc-28206

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

3β-hydroxysteroid dehydrogenase (3β-HSD), also known as HSD3B1 or HSDB3, is a bifunctional enzyme that plays a crucial role in the synthesis of all classes of hormonal steroids. Two human 3β-HSD proteins, designated type I (3β-HSD) and type II (3β-HSD2), are expressed by different genes and function in different areas of the body. Localized to the membrane of the endoplasmic reticulum (ER) and expressed in skin and placenta, 3β-HSD is the type I protein that catalyzes the oxidative conversion of δ5-ene-3-β-hydroxy steroid, as well as the conversion of various ketosteroids. Defects in the gene encoding 3β-HSD are associated with classic salt wasting, genital ambiguity, hypogonadism, Insulin-resistant polycystic ovary syndrome (PCOS) and an increased susceptibility to prostate cancer. Additionally, congenital deficiency of 3β-HSD activity results in a severe depletion of steroid formation which can be lethal in young children.

CHROMOSOMAL LOCATION

Genetic locus: HSD3B1/HSD3B2 (human) mapping to 1p12; Hsd3b1/Hsd3b2/Hsd3b3/Hsd3b4/Hsd3b5/Hsd3b6 (mouse) mapping to 3 F2.2.

SOURCE

3β-HSD (H-143) is a rabbit polyclonal antibody raised against amino acids 231-373 mapping at the C-terminus of 3β-HSD 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

3β-HSD (H-143) is recommended for detection of 3β-HSD and 3β-HSD2 of human origin, 3β-HSD1-6 of mouse origin and 3β-HSD1-4 of rat 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), 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).

Molecular Weight of 3β-HSD: 42 kDa.

Positive Controls: CCD-1064Sk cell lysate: sc-2263, MES-SA/Dx5 cell lysate: sc-2284 or mouse testis extract: sc-2405.

STORAGE

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

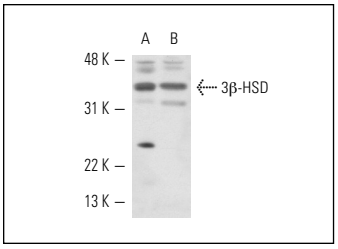
PROTOCOLS

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

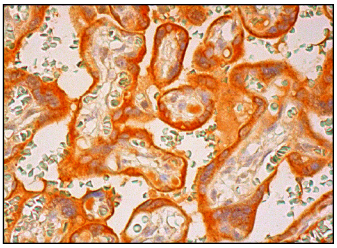
RESEARCH USE

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

DATA



3β-HSD (H-143): sc-28206. Western blot analysis of 3β-HSD expression in CCD-1064Sk (**A**) and MES-SA/Dx5 (**B**) whole cell lysates.



3β-HSD (H-143): sc-28206. Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing cytoplasmic staining of trophoblastic cells.

SELECT PRODUCT CITATIONS

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2. Sato, Y., et al. 2010. Xenografting of testicular tissue from an infant human donor results in accelerated testicular maturation. Hum. Reprod. 25: 1113-1122.
3. Welsh, M., et al. 2010. Androgen action via testicular arteriole smooth muscle cells is important for Leydig cell function, vasomotion and testicular fluid dynamics. PLoS ONE 5: e13632.
4. Kowalczyk-Zieba, I., et al. 2012. Lysophosphatidic acid action in the bovine corpus luteum—an *in vitro* study. J. Reprod. Dev. 58: 661-671.
5. Poels, J., et al. 2012. Vitrification of non-human primate immature testicular tissue allows maintenance of proliferating spermatogonial cells after xenografting to recipient mice. Theriogenology 77: 1008-1013.
6. Li, T., et al. 2012. Up-regulation of NDRG2 through nuclear factor-κB is required for Leydig cell apoptosis in both human and murine infertile testes. Biochim. Biophys. Acta 1822: 301-313.
7. Nanjappa, M.K., et al. 2012. The industrial chemical bisphenol A (BPA) interferes with proliferative activity and development of steroidogenic capacity in rat Leydig cells. Biol. Reprod. 86: 135.
8. Wu, L., et al. 2012. Abnormal regulation for progesterone production in placenta with prenatal cocaine exposure in rats. Placenta 33: 977-981.
9. Welsh, M., et al. 2012. Androgen receptor signalling in peritubular myoid cells is essential for normal differentiation and function of adult Leydig cells. Int. J. Androl. 35: 25-40.