

3 β -HSD (P-18): sc-30820

BACKGROUND

3 β -hydroxysteroid dehydrogenase (3 β -HSD), also known as HSD3B1 or HSD3B3, is a bifunctional enzyme that plays a crucial role in the synthesis of all classes of hormonal steroids. Two human 3 β -HSD proteins, designated type I (3 β -HSD) and type II (3 β -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, 3 β -HSD is the type I protein that catalyzes the oxidative conversion of δ^5 -ene-3 β -hydroxy steroid, as well as the conversion of various ketosteroids. Defects in the gene encoding 3 β -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 3 β -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 (mouse) mapping to 3 F2.2.

SOURCE

3 β -HSD (P-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of 3 β -HSD of human origin.

PRODUCT

Each vial contains 100 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-30820 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

3 β -HSD (P-18) is recommended for detection of 3 β -HSD and 3 β -HSD2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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); may cross-react with 3 β -HSD3-6 of mouse and rat origin.

3 β -HSD (P-18) is also recommended for detection of 3 β -HSD and 3 β -HSD2 in additional species, including equine, canine, bovine and porcine.

Molecular Weight of 3 β -HSD: 42 kDa.

Positive Controls: rat adrenal gland extract: sc-364802, CCD-1064Sk cell lysate: sc-2263 or mouse testis extract: sc-2405.

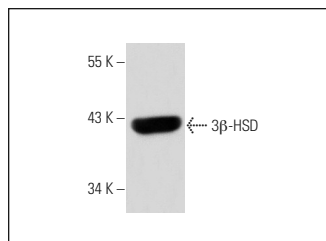
STORAGE

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

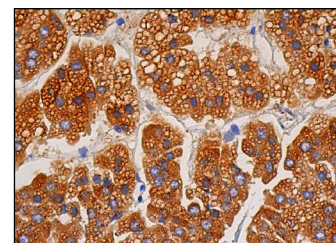
RESEARCH USE

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

DATA



3 β -HSD (P-18): sc-30820. Western blot analysis of 3 β -HSD expression in rat adrenal gland tissue extract.



3 β -HSD (P-18): sc-30820. Immunoperoxidase staining of formalin fixed, paraffin-embedded human adrenal gland tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Sikora, M.J., et al. 2008. The androgen metabolite 5 α -androstane-3 β , 17 β -diol (3 β Adiol) induces breast cancer growth via estrogen receptor: implications for aromatase inhibitor resistance. *Breast Cancer Res. Treat.* 115: 289-296.
2. Pinto, M.E., et al. 2010. Differentiation of Leydig cells in the Mongolian gerbil. *Microsc. Res. Tech.* 73: 119-127.
3. Sun, J., et al. 2011. Research on the isolation of mouse leydig cells using differential digestion with a low concentration of collagenase. *J. Reprod. Dev.* 57: 433-436.
4. Rak-Mardyla, A., et al. 2012. Expression of ghrelin and the ghrelin receptor in different stages of porcine corpus luteum development and the inhibitory effects of ghrelin on progesterone secretion, 3 β -hydroxysteroid dehydrogenase (3 β -HSD) activity and protein expression. *Theriogenology* 77: 1505-1512.
5. Bennett, N.C., et al. 2012. Evidence for steroidogenic potential in human prostate cell lines and tissues. *Am. J. Pathol.* 181: 1078-1087.
6. Zhao, Y., et al. 2012. Perfluorooctanoic acid effects on ovaries mediate its inhibition of peripubertal mammary gland development in Balb/c and C57Bl/6 mice. *Reprod. Toxicol.* 33: 563-576.
7. Wang, H., et al. 2012. Maternal lead exposure during lactation persistently impairs testicular development and steroidogenesis in male offspring. *J. Appl. Toxicol.* 33: 1384-1394.
8. Rak-Mardy, A., et al. 2013. Effects of resistin on porcine ovarian follicle steroidogenesis in prepubertal animals: an *in vitro* study. *Reprod. Biol. Endocrinol.* 11: 45.



Try **3 β -HSD (A-1): sc-515120** or **3 β -HSD (37-2): sc-100466**, our highly recommended monoclonal alternatives to 3 β -HSD (P-18). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **3 β -HSD (A-1): sc-515120**.