3β-HSD (A-1): sc-515120

BACKGROUND
3β-hydroxysteroid dehydrogenase (3β-HSD), also known as HSD3B1 or HSD3B2, 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-3β-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 (mouse) mapping to 3 F2.2.

SOURCE
3β-HSD (A-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 152-178 within an internal region of 3β-HSD of human origin.

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

3β-HSD (A-1) is available conjugated to agarose (sc-515120 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-515120 HRP), 200 µg/ml, for WB, IHC (P) and ELISA; and to either phycoerythrin (sc-515120 PE), fluorescent (sc-515120 FITC) or Alexa Fluor® 488 (sc-515120 AF488) or Alexa Fluor® 647 (sc-515120 AF647), 200 µg/ml, for WB (RGB), IF, IHC (P) and FCM.

Blocking peptide available for competition studies, sc-515120 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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

APPLICATIONS
3β-HSD (A-1) is recommended for detection of 3β-HSD and 3β-HSD2 of mouse, rat and 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).

Molecular Weight of 3β-HSD: 42 kDa.

Positive Controls: rat adrenal gland extract: sc-384802.

RECOMMENDED SUPPORT REAGENTS
To ensure optimal results, the following support reagents are recommended:

1) Western Blotting: use m-IgG BP-HRP; sc-516102 or m-IgG 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).


DATA

SELECT PRODUCT CITATIONS


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

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

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