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 IgG3 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), fluorescein (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 (proteins).

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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-364802 or mouse adrenal gland extract: sc-364237.

STORAGE

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

DATA

3β-HSD (A-1) Alexa Fluor® 488: sc-515120 AF488.

Direct fluorescent western blot analysis of 3β-HSD expression in rat adrenal gland (A) and mouse adrenal gland (B) tissue extracts. Blocked with UltraCruz® Blocking Reagent: sc-516214. Cruz Marker™ Molecular Weight Standards detected with Cruz Marker™ MW Tag Alexa Fluor® 488 sc-516790.

3β-HSD (A-1): sc-515120. Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing cytoplasmic staining of trophoblastic cells (A), Immunoperoxidase staining of formalin fixed, paraffin-embedded human adrenal gland tissue showing cytoplasmic staining of glandular cells (B).

SELECT PRODUCT CITATIONS


RESEARCH USE

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