# SANTA CRUZ BIOTECHNOLOGY, INC.

# 17β-HSD4 (A-6): sc-365167



#### BACKGROUND

17β-HSD4 (17β-hydroxysteroid dehydrogenase type 4) is also known as peroxisomal multifunctional enzyme/protein 2 (MFE-2/MFP-2), D-bifunctional enzyme or 17-β Estradiol dehydrogenase type IV. It belongs to the 17β-HSD family of proteins that regulate the availability of steroids within various tissues throughout the body. 17β-HSD4 inactivates Estradiol through its oxidative activity but it is primarily involved in peroxisomal fatty acid and cholesterol β-oxidation. It has a multi-domain structure: the dehydrogenase domain is fused to a hydratase and a lipid transfer domain. 17β-HSD4 is a target protein of chromeceptin and it is essential for the downstream activation of Stat6. 17β-HSD4-deficient patients exhibit Zellweger-like syndrome and die within the first year of life. They display neuronal migration defects, facial dysmorphisms, severe hypotonia and convulsions in the neonatal period.

#### **CHROMOSOMAL LOCATION**

Genetic locus: HSD17B4 (human) mapping to 5q23.1.

# SOURCE

17β-HSD4 (A-6) is a mouse monoclonal antibody raised against amino acids 31-330 mapping within an internal region of 17β-HSD4 of human origin.

#### PRODUCT

Each vial contains 200  $\mu g$   $lgG_{2b}$  kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

17β-HSD4 (A-6) is available conjugated to agarose (sc-365167 AC), 500 μg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-365167 HRP), 200 μg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365167 PE), fluorescein (sc-365167 FITC), Alexa Fluor<sup>®</sup> 488 (sc-365167 AF488), Alexa Fluor<sup>®</sup> 546 (sc-365167 AF546), Alexa Fluor<sup>®</sup> 594 (sc-365167 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-365167 AF647), 200 μg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-365167 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-365167 AF790), 200 μg/ml, for NB, IF and FCM.

# **STORAGE**

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

#### **APPLICATIONS**

17β-HSD4 (A-6) is recommended for detection of 17β-HSD4 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 17 $\beta$ -HSD4 siRNA (h): sc-61918, 17 $\beta$ -HSD4 shRNA Plasmid (h): sc-61918-SH and 17 $\beta$ -HSD4 shRNA (h) Lentiviral Particles: sc-61918-V.

Molecular Weight of 17β-HSD4: 81 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203 or Jurkat whole cell lysate: sc-2204.

#### **RECOMMENDED SUPPORT REAGENTS**

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> 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). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

# DATA





17β-HSD4 (A-6): sc-365167. Western blot analysis of 17β-HSD4 expression in K-562 (**A**) and Jurkat (**B**) whole cell lysates

17β-HSD4 (A-6): sc-365167. Immunofluorescence staining of formalin-fixed Hep G2 cells showing cytoplasmic vesicles localization (**A**). Direct immunofluorescence staining of formalin-fixed HeLa cells showing cytoplasmic vesicle localization and nuclear DAPI counterstain. 17β-HSD4 (A-6) antibody was conjugated to CruzFluor<sup>®</sup> 594 succinimidyl ester: sc-362619 (**B**).

#### SELECT PRODUCT CITATIONS

- Lu, X., et al. 2019. 17β-hydroxysteroid dehydrogenase 4 induces liver cancer proliferation-associated genes via Stat3 activation. Oncol. Rep. 41: 2009-2019.
- Shi, L., et al. 2021. Mutated SPOP E3 ligase promotes 17βHSD4 protein degradation to drive androgenesis and prostate cancer progression. Cancer Res. 81: 3593-3606.
- Zhang, N., et al. 2023. High expression of peroxisomal D-bifunctional protein in cytosol regulates apoptosis and energy metabolism of hepatocellular carcinoma cells via PI3K/AKT pathway. Am. J. Cancer Res. 13: 1884-1903.

## **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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