

# 17 $\beta$ -HSD4 (A-6): sc-365167

## BACKGROUND

17 $\beta$ -HSD4 (17 $\beta$ -hydroxysteroid dehydrogenase type 4) is also known as peroxisomal multifunctional enzyme/protein 2 (MFE-2/MFP-2), D-bifunctional enzyme or 17- $\beta$  Estradiol dehydrogenase type IV. It belongs to the 17 $\beta$ -HSD family of proteins that regulate the availability of steroids within various tissues throughout the body. 17 $\beta$ -HSD4 inactivates Estradiol through its oxidative activity but it is primarily involved in peroxisomal fatty acid and cholesterol  $\beta$ -oxidation. It has a multi-domain structure: the dehydrogenase domain is fused to a hydratase and a lipid transfer domain. 17 $\beta$ -HSD4 is a target protein of chromeceptin and it is essential for the downstream activation of Stat6. 17 $\beta$ -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

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

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

17 $\beta$ -HSD4 (A-6) is available conjugated to agarose (sc-365167 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365167 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365167 PE), fluorescein (sc-365167 FITC), Alexa Fluor® 488 (sc-365167 AF488), Alexa Fluor® 546 (sc-365167 AF546), Alexa Fluor® 594 (sc-365167 AF594) or Alexa Fluor® 647 (sc-365167 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365167 AF680) or Alexa Fluor® 790 (sc-365167 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, 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

17 $\beta$ -HSD4 (A-6) is recommended for detection of 17 $\beta$ -HSD4 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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.

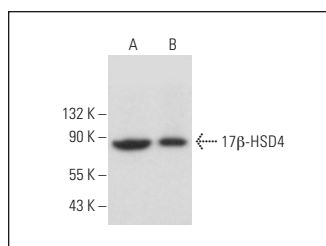
Molecular Weight of 17 $\beta$ -HSD4: 81 kDa.

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

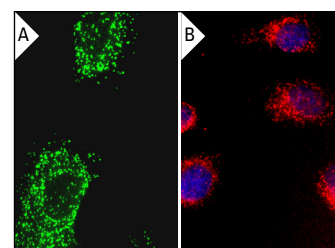
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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). 3) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



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



17 $\beta$ -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. 17 $\beta$ -HSD4 (A-6) antibody was conjugated to CruzFluor® 594 succinimidyl ester: sc-362619 (B).

## SELECT PRODUCT CITATIONS

- Lu, X., et al. 2019. 17 $\beta$ -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 17 $\beta$ HSD4 protein degradation to drive androgenesis and prostate cancer progression. *Cancer Res.* 81: 3593-3606.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

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