SANTA CRUZ BIOTECHNOLOGY, INC.

17β-HSD4 (T-20): sc-66423

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

REFERENCES

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2. Breitling, R., et al. 2001. Evolution of 17β-HSD type 4, a multifunctional protein of β-oxidation. Mol. Cell. Endocrinol. 171: 205-210.
3. Kobayashi, K., et al. 2004. Expression of estrogen receptor α and 17β-hydroxysteroid dehydrogenase 4 in the ciliary body. Graefes Arch. Clin. Exp. Ophthalmol. 242: 172-176.
4. Nagayoshi, Y., et al. 2005. Characterization of 17β-hydroxysteroid dehydrogenase type 4 in human ovarian surface epithelial cells. Mol. Hum. Reprod. 11: 615-621.
5. Otsuka, M., et al. 2005. Vitamin K2 binds 17β-hydroxysteroid dehydrogenase 4 and modulates estrogen metabolism. Life Sci. 76: 2473-2482.
6. Nguyen, T., et al. 2006. Failure of microtubule-mediated peroxisome division and trafficking in disorders with reduced peroxisome abundance. J. Cell Sci. 119: 636-645.
7. Huyghe, S., et al. 2006. Peroxisomal multifunctional protein 2 is essential for lipid homeostasis in Sertoli cells and male fertility in mice. Endocrinology 147: 2228-2236.
8. Huyghe, S., et al. 2006. Peroxisomal multifunctional protein-2 deficiency causes motor deficits and glial lesions in the adult central nervous system. Am. J. Pathol. 168: 1321-1334.
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CHROMOSOMAL LOCATION

Genetic locus: HSD17B4 (human) mapping to 5q23.1; Hsd17b4 (mouse) mapping to 18 D1.

SOURCE

17β-HSD4 (T-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of 17β-HSD4 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-66423 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

17β-HSD4 (T-20) is recommended for detection of 17β-HSD4 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

17β-HSD4 (T-20) is also recommended for detection of 17β-HSD4 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for 17β-HSD4 siRNA (h): sc-61918, 17β-HSD4 siRNA (m): sc-61919, 17β-HSD4 shRNA Plasmid (h): sc-61918-SH, 17β-HSD4 shRNA Plasmid (m): sc-61919-SH, 17β-HSD4 shRNA (h) Lentiviral Particles: sc-61918-V and 17β-HSD4 shRNA (m) Lentiviral Particles: sc-61919-V.

Molecular Weight of 17β-HSD4: 81 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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.

PROTOCOLS

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