SANTA CRUZ BIOTECHNOLOGY, INC.

11β-HSD2 (H-145): sc-20176

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Glucocorticoid hormone action in target tissues is modulated by 11β-hydroxysteroid dehydrogenase (11β-HSD), which catalyzes the interconversion of hormonally active C11-hydroxylated corticosteroids (cortisol, corticosterone) and their inactive C11-keto metabolites (cortisone, 11-dehydrocorticosterone). At least two isoforms of 11β-HSD exist: a low-affinity NADP-dependent dehydrogenase/oxoreductase (11β-HSD1) and a high-affinity NAD-dependent dehydrogenase (11β-HSD2). The glycosylated 11β-HSD1 protein activates cortisol from cortisone, which is widely expressed in mammals, and is most highly expressed in the liver. 11β-HSD2 inactivates cortisol to cortisone and is expressed in placenta, aldosterone target tissues (kidney, parotid, colon and skin) and pancreas. 11β-HSD1 may play a role in glucose homeostasis and pathogenesis of a number of disorders including Insulin resistance and obesity. 11β-HSD2 associates with differentiation or maturation in human colonic epithelia and may serve as a marker in development and disease. In addition, 11β-HSD2 plays a crucial role in modulating mineralcorticoid and glucocorticoid receptor occupancy by glucocorticoids.

CHROMOSOMAL LOCATION

Genetic locus: HSD11B2 (human) mapping to 16q22.1; Hsd11b2 (mouse) mapping to 8 D3.

SOURCE

11β-HSD2 (H-145) is a rabbit polyclonal antibody raised against amino acids 261-405 mapping at the C-terminus of 11β-HSD2 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.

APPLICATIONS

11β-HSD2 (H-145) is recommended for detection of 11β-HSD2 of mouse, rat and 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), 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).

Suitable for use as control antibody for 11β-HSD2 siRNA (h): sc-41379, 11β-HSD2 siRNA (m): sc-41380, 11β-HSD2 shRNA Plasmid (h): sc-41379-SH, 11β-HSD2 shRNA Plasmid (m): sc-41380-SH, 11β-HSD2 shRNA (h) Lentiviral Particles: sc-41379-V and 11β-HSD2 shRNA (m) Lentiviral Particles: sc-41380-V.

Molecular Weight of 11β-HSD2: 40 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, JAR cell lysate: sc-2276 or 11β-HSD2 (h2): 293T Lysate: sc-116955.

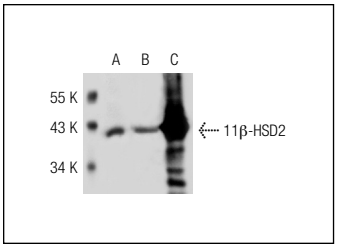
STORAGE

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

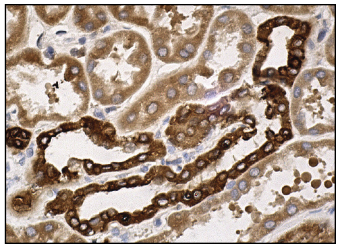
RESEARCH USE

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

DATA



11β-HSD2 (H-145): sc-20176. Western blot analysis of 11β-HSD2 expression in non-transfected 293T: sc-117752 (**A**), human 11β-HSD2 transfected 293T: sc-116955 (**B**) and HeLa (**C**) whole cell lysates.



11β-HSD2 (H-145): sc-20176. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of cells in tubules.

SELECT PRODUCT CITATIONS

1. Ge, R.S., et al. 2005. 11β-hydroxysteroid dehydrogenase 2 in rat Leydig cells: its role in blunting glucocorticoid action at physiological levels of substrate. Endocrinology 146: 2657-2664.
2. Wang, Q., et al. 2009. Luteinizing hormone induces expression of 11β-hydroxysteroid dehydrogenase type 2 in rat Leydig cells. Reprod. Biol. Endocrinol. 7: 39.
3. Ni, X.T., et al. 2009. Role of human chorionic gonadotropin in maintaining 11β-hydroxysteroid dehydrogenase type 2 expression in human placental syncytiotrophoblasts. Placenta 30: 1023-1028.
4. Li, J.N., et al. 2011. The Sp1 transcription factor is crucial for the expression of 11β-hydroxysteroid dehydrogenase type 2 in human placental trophoblasts. J. Clin. Endocrinol. Metab. 96: E899-E907.
5. Shang, Y., et al. 2011. Low amino acids affect expression of 11β-HSD2 in BeWo cells through leptin-activated JAK-STAT and MAPK pathways. Amino Acids 42: 1879-1887.
6. Terakado, M., et al. 2011. Distribution of glucocorticoid receptors and 11β-hydroxysteroid dehydrogenase isoforms in the rat inner ear. Hear. Res. 280: 148-156.
7. Cirillo, N., et al. 2012. Characterization of a novel oral glucocorticoid system and its possible role in disease. J. Dent. Res. 91: 97-103.
8. Ma, R., et al. 2012. Differential expression of placental 11β-hydroxysteroid dehydrogenases in pregnant women with diet-treated gestational diabetes mellitus. Steroids 77: 798-805.