

11 β -HSD2 (h2): 293T Lysate: sc-116955

BACKGROUND

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

REFERENCES

1. Tannin, G.M., et al. 1991. The human gene for 11 β -hydroxysteroid dehydrogenase. Structure, tissue distribution and chromosomal localization. *J. Biol. Chem.* 266: 16653-16658.
2. Albiston, A.L., et al. 1994. Cloning and tissue distribution of the human 11 β -hydroxysteroid dehydrogenase type 2 enzyme. *Mol. Cell. Endocrinol.* 105: 11-17.
3. Brown, R.W., et al. 1996. Cloning and production of antisera to human placental 11 β -hydroxysteroid dehydrogenase type 2. *Biochem. J.* 313: 1007-1017.
4. Takahashi, K., et al. 1998. 11 β -hydroxysteroid dehydrogenase type II in human colon: a new marker of fetal development and differentiation in neoplasms. *Anticancer Res.* 18: 3381-3388.
5. Stewart, P.M. and Krozowski, Z.S. 1999. 11 β -hydroxysteroid dehydrogenase. *Vitam. Horm.* 57: 249-324.
6. Arcuri, F., et al. 1999. Expression of 11 β -hydroxysteroid dehydrogenase in early pregnancy: implications in human trophoblast-endometrial interactions. *Semin. Reprod. Endocrinol.* 17: 53-61.
7. Rauz, S., et al. 2001. Expression and putative role of 11 β -hydroxysteroid dehydrogenase isozymes within the human eye. *Invest. Ophthalmol. Vis. Sci.* 42: 2037-2042.
8. Walker, E.A., et al. 2001. Functional expression, characterization, and purification of the catalytic domain of human 11 β -hydroxysteroid dehydrogenase type 1. *J. Biol. Chem.* 276: 21343-21350.
9. Morton, N.M., et al. 2001. Improved lipid and lipoprotein profile, hepatic Insulin sensitivity and glucose tolerance in 11 β -hydroxysteroid dehydrogenase type 1 null mice. *J. Biol. Chem.* 276: 41293-41300.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

CHROMOSOMAL LOCATION

Genetic locus: HSD11B2 (human) mapping to 16q22.1.

PRODUCT

11 β -HSD2 (h2): 293T Lysate represents a lysate of human 11 β -HSD2 transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

APPLICATIONS

11 β -HSD2 (h2): 293T Lysate is suitable as a Western Blotting positive control for human reactive 11 β -HSD2 antibodies. Recommended use: 10-20 μ l per lane.

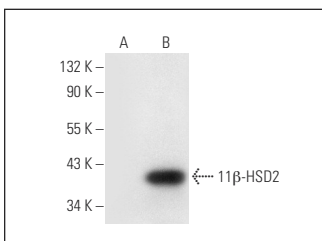
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

11 β -HSD2 (C-9): sc-365529 is recommended as a positive control antibody for Western Blot analysis of enhanced human 11 β -HSD2 expression in 11 β -HSD2 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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.

DATA



11 β -HSD2 (C-9): sc-365529. Western blot analysis of 11 β -HSD2 expression in non-transfected: sc-117752 (A) and human 11 β -HSD2 transfected: sc-116955 (B) 293T whole cell lysates.

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.