

# 11 $\beta$ -HSD2 (h2): 293T Lysate: sc-116955

## BACKGROUND

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

## REFERENCES

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2. Albiston, A.L., et al. 1994. Cloning and tissue distribution of the human 11 $\beta$ -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 $\beta$ -hydroxysteroid dehydrogenase type 2. *Biochem. J.* 313: 1007-1017.
4. Takahashi, K., et al. 1998. 11 $\beta$ -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 $\beta$ -hydroxysteroid dehydrogenase. *Vitam. Horm.* 57: 249-324.
6. Arcuri, F., et al. 1999. Expression of 11 $\beta$ -hydroxysteroid dehydrogenase in early pregnancy: implications in human trophoblast-endometrial interactions. *Semin. Reprod. Endocrinol.* 17: 53-61.
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8. Walker, E.A., et al. 2001. Functional expression, characterization, and purification of the catalytic domain of human 11 $\beta$ -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 $\beta$ -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 $\beta$ -HSD2 (h2): 293T Lysate represents a lysate of human 11 $\beta$ -HSD2 transfected 293T cells and is provided as 100  $\mu$ g protein in 200  $\mu$ l SDS-PAGE buffer.

## APPLICATIONS

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

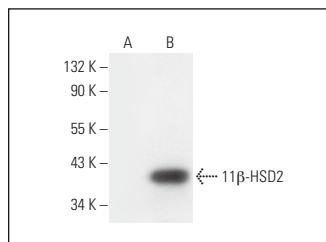
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

11 $\beta$ -HSD2 (C-9): sc-365529 is recommended as a positive control antibody for Western Blot analysis of enhanced human 11 $\beta$ -HSD2 expression in 11 $\beta$ -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 $\kappa$  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.

## DATA



11 $\beta$ -HSD2 (C-9): sc-365529. Western blot analysis of 11 $\beta$ -HSD2 expression in non-transfected: sc-117752 (A) and human 11 $\beta$ -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](http://www.scbt.com) for detailed protocols and support products.