

11 β -HSD2 (C-9): sc-365529

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.

CHROMOSOMAL LOCATION

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

SOURCE

11 β -HSD2 (C-9) is a mouse monoclonal antibody raised against amino acids 261-405 of 11 β -HSD2 of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

11 β -HSD2 (C-9) is available conjugated to agarose (sc-365529 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365529 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365529 PE), fluorescein (sc-365529 FITC), Alexa Fluor[®] 488 (sc-365529 AF488), Alexa Fluor[®] 546 (sc-365529 AF546), Alexa Fluor[®] 594 (sc-365529 AF594) or Alexa Fluor[®] 647 (sc-365529 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-365529 AF680) or Alexa Fluor[®] 790 (sc-365529 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

11 β -HSD2 (C-9) is recommended for detection of 11 β -HSD2 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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 11 β -HSD2 siRNA (h): sc-41379, 11 β -HSD2 shRNA Plasmid (h): sc-41379-SH and 11 β -HSD2 shRNA (h) Lentiviral Particles: sc-41379-V.

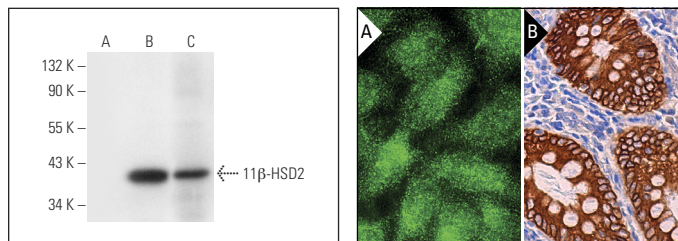
Molecular Weight of 11 β -HSD2: 40 kDa.

Positive Controls: 11 β -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.

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 and human kidney tissue extract (C).

11 β -HSD2 (C-9): sc-365529. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and nuclear localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human appendix tissue showing cytoplasmic staining of glandular cells (B).

SELECT PRODUCT CITATIONS

- Linz, D., et al. 2013. Effect of renal denervation on neurohumoral activation triggering atrial fibrillation in obstructive sleep apnea. *Hypertension* 62: 767-774.
- Lavall, D., et al. 2014. The mineralocorticoid receptor promotes fibrotic remodeling in atrial fibrillation. *J. Biol. Chem.* 289: 6656-6668.
- Reil, J.C., et al. 2016. Hyperaldosteronism induces left atrial systolic and diastolic dysfunction. *Am. J. Physiol. Heart Circ. Physiol.* 311: H1014-H1023.
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- Yu, L., et al. 2018. cAMP/PKA/EGR1 signaling mediates the molecular mechanism of ethanol-induced inhibition of placental 11 β -HSD2 expression. *Toxicol. Appl. Pharmacol.* 352: 77-86.
- Lavall, D., et al. 2019. The non-steroidal mineralocorticoid receptor antagonist finerenone prevents cardiac fibrotic remodeling. *Biochem. Pharmacol.* 168: 173-183.
- Saito, R., et al. 2020. 11 β hydroxysteroid dehydrogenase 1: a new marker for predicting response to immune-checkpoint blockade therapy in non-small-cell lung carcinoma. *Br. J. Cancer* 123: 61-71.
- Pan, Y., et al. 2021. Dysfunction of Shh signaling activates autophagy to inhibit trophoblast motility in recurrent miscarriage. *Exp. Mol. Med.* 53: 52-66.
- Chen, N., et al. 2022. Cadmium induces placental glucocorticoid barrier damage by suppressing the cAMP/PKA/Sp1 pathway and the protective role of taurine. *Toxicol. Appl. Pharmacol.* 440: 115938.

RESEARCH USE

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

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