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HSD11B2 Antibody (Center)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP9764c

Specification

HSD11B2 Antibody (Center) - Product Information

Application	**FC, IHC-P, WB,E**
Primary Accession	P80365
Reactivity	**Human**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Calculated MW	**44127**
Antigen Region	**277-306**

HSD11B2 Antibody (Center) - Additional Information

Gene ID 3291

Other Names
Corticosteroid 11-beta-dehydrogenase isozyme 2, 111-, 11-beta-hydroxysteroid dehydrogenase type 2, 11-DH2, 11-beta-HSD2, 11-beta-hydroxysteroid dehydrogenase type II, -HSD11 type II, NAD-dependent 11-beta-hydroxysteroid dehydrogenase, 11-beta-HSD, HSD11B2, HSD11K

Target/Specificity
This HSD11B2 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 277-306 amino acids from the Central region of human HSD11B2.

Dilution
FC~~1:10~50
IHC-P~~1:50~100
WB~~1:1000
E~~Use at an assay dependent concentration.

Format
Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

Storage
Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
HSD11B2 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

HSD11B2 Antibody (Center) - Protein Information

Name HSD11B2 (HGNC:5209)

Function Catalyzes the conversion of biologically active 11beta- hydroxyglucocorticoids (11beta-hydroxysteroid) such as cortisol, to inactive 11-ketoglucocorticoids (11-oxosteroid) such as cortisone, in the presence of NAD(+) (PubMed:10497248, PubMed:12788846, PubMed:17314322, PubMed:22796344, PubMed:27927697, PubMed:30902677, PubMed:33387577, PubMed:7859916, PubMed:8538347). Functions as a dehydrogenase (oxidase), thereby decreasing the concentration of active glucocorticoids, thus protecting the nonselective mineralocorticoid receptor from occupation by glucocorticoids (PubMed:10497248, PubMed:12788846, PubMed:17314322, PubMed:33387577, PubMed:7859916). Plays an important role in maintaining glucocorticoids balance during preimplantation and protects the fetus from excessive maternal corticosterone exposure (By similarity). Catalyzes the oxidation of 11beta-hydroxytestosterone (11beta,17beta-dihydroxyandrost-4-ene-3-one) to 11-ketotestosterone (17beta-hydroxyandrost-4-ene-3,11-dione), a major bioactive androgen (PubMed:22796344, PubMed:27927697). Catalyzes the conversion of 11beta-hydroxyandrostenedione (11beta-hydroxyandrost- 4-ene-3,17-dione) to 11-ketoandrostenedione (androst-4-ene-3,11,17- trione), which can be further metabolized to 11-ketotestosterone (PubMed:27927697). Converts 7-beta-25-dihydroxycholesterol to 7-oxo-25-hydroxycholesterol in vitro (PubMed:30902677). 7-beta-25- dihydroxycholesterol (not 7-oxo-25-hydroxycholesterol) acts as a ligand for the G-protein-coupled receptor (GPCR) Epstein-Barr virus-induced gene 2 (EBI2) and may thereby regulate immune cell migration (PubMed:30902677). May protect ovulating oocytes and fertilizing spermatozoa from the adverse effects of cortisol (By similarity).

Cellular Location
Microsome. Endoplasmic reticulum

Tissue Location
Expressed in kidney, placenta, pancreas, prostate, ovary, small intestine and colon, and in lower levels in the spleen and testis (PubMed:7859916). At midgestation, expressed at high levels in placenta and in fetal kidney and, at much lower levels, in fetal lung and testis (PubMed:8530071).

HSD11B2 Antibody (Center) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

HSD11B2 Antibody (Center) - Images

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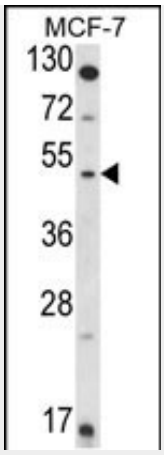
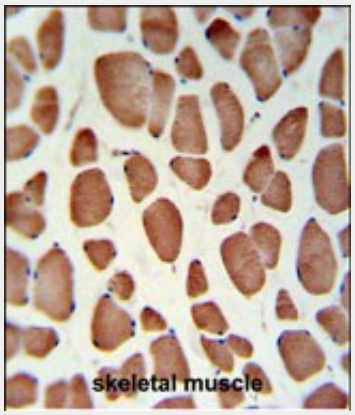
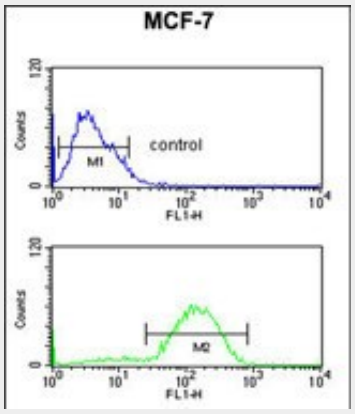


Western blot analysis of HSD11B2 Antibody (Center) (Cat. #AP9764c) in MCF-7 cell line lysates (35ug/lane). HSD11B2 (arrow) was detected using the purified Pab.



HSD11B2 Antibody (Center) (Cat. #AP9764c) IHC analysis in formalin fixed and paraffin embedded skeletal muscle followed by peroxidase conjugation of the secondary antibody and DAB staining. This data demonstrates the use of the HSD11B2 Antibody (Center) for immunohistochemistry. Clinical relevance has not been evaluated.



HSD11B2 Antibody (Center) (Cat. #AP9764c) flow cytometric analysis of MCF-7 cells (bottom histogram) compared to a negative control cell (top histogram).FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

HSD11B2 Antibody (Center) - Background

There are at least two isozymes of the corticosteroid 11-beta-dehydrogenase, a microsomal enzyme complex responsible for the interconversion of cortisol and cortisone. The type I isozyme

has both 11-beta-dehydrogenase (cortisol to cortisone) and 11-oxoreductase (cortisone to cortisol) activities. The type II isozyme, encoded by this gene, has only 11-beta-dehydrogenase activity. In aldosterone-selective epithelial tissues such as the kidney, the type II isozyme catalyzes the glucocorticoid cortisol to the inactive metabolite cortisone, thus preventing illicit activation of the mineralocorticoid receptor. In tissues that do not express the mineralocorticoid receptor, such as the placenta and testis, it protects cells from the growth-inhibiting and/or pro-apoptotic effects of cortisol, particularly during embryonic development. Mutations in this gene cause the syndrome of apparent mineralocorticoid excess and hypertension.

HSD11B2 Antibody (Center) - References

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Stark, M.J., et al. Am. J. Physiol. Regul. Integr. Comp. Physiol. 297 (2), R510-R514 (2009)
Lepenies, J., et al. Clin. Exp. Hypertens. 31(4):376-379(2009)