10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Anti-HSD11B1 Antibody

Catalog # ABO10697

Product Information

Application	WB, IHC-P
Primary Accession	P28845
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for Corticosteroid 11-beta-dehydrogenase isozyme 1(HSD11B1) detection. Tested with WB, IHC-P in Human;Mouse;Rat.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	3290
Other Names	Corticosteroid 11-beta-dehydrogenase isozyme 1, 1.1.1.146, 11-beta-hydroxysteroid dehydrogenase 1, 11-DH, 11-beta-HSD1, Short chain dehydrogenase/reductase family 26C member 1, HSD11B1, HSD11, HSD11L, SDR26C1
Calculated MW	32401
Application Details	Immunohistochemistry(Paraffin-embedded Section), 0.5-1 □g/ml, Human, Rat, Mouse, By Heat Western blot, 0.1-0.5 □g/ml, Human, Rat, Mouse
Subcellular Localization	Endoplasmic reticulum membrane ; Single-pass type II membrane protein .
Tissue Specificity	Widely expressed. Highest expression in liver.
Source	Eukaryota
Protein Name	Corticosteroid 11-beta-dehydrogenase isozyme 1
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg Thimerosal, 0.05mg NaN3.
Immunogen	A synthetic peptide corresponding to a sequence at the N-terminus of human HSD11B1(16-33aa MAYYYYSANEEFRPEMLQ), different from the related mouse sequence by two amino acids, and from the related rat sequence by four amino acids.
Purification	Immunogen affinity purified.

Cross Reactivity	No cross reactivity with other proteins
Storage	At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing.

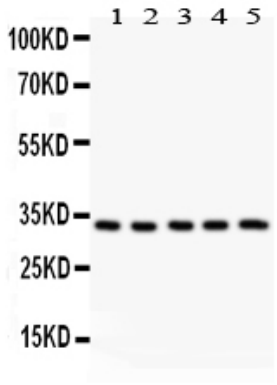
Protein Information

Name	HSD11B1 (HGNC:5208)
Synonyms	HSD11, HSD11L, SDR26C1
Function	Controls the reversible conversion of biologically active glucocorticoids such as cortisone to cortisol, and 11- dehydrocorticosterone to corticosterone in the presence of NADP(H) (PubMed:10497248, PubMed:12460758, PubMed:14973125, PubMed:15152005, PubMed:15280030, PubMed:17593962, PubMed:21453287, PubMed:23685396, PubMed:27927697, PubMed:30902677). Participates in the corticosteroid receptor-mediated anti-inflammatory response, as well as metabolic and homeostatic processes (PubMed:10497248, PubMed:12414862, PubMed:15152005, PubMed:21453287). Plays a role in the secretion of aqueous humor in the eye, maintaining a normotensive, intraocular environment (PubMed:11481269). Bidirectional in vitro, predominantly functions as a reductase in vivo, thereby increasing the concentration of active glucocorticoids (PubMed:10497248, PubMed:11481269, PubMed:12414862, PubMed:12460758). It has broad substrate specificity, besides glucocorticoids, it accepts other steroid and sterol substrates (PubMed:15095019, PubMed:15152005, PubMed:17593962, PubMed:21453287, PubMed:23685396). Interconverts 7-oxo- and 7-hydroxy-neurosteroids such as 7-oxopregnenolone and 7beta-hydroxypregnenolone, 7- oxodehydroepiandrosterone (3beta-hydroxy-5-androstene-7,17-dione) and 7beta-hydroxydehydroepiandrosterone (3beta,7beta-dihydroxyandrost-5-en-17-one), among others (PubMed:17593962). Catalyzes the stereo-specific conversion of the major dietary oxysterol, 7-ketocholesterol (7-oxocholesterol), into the more polar 7-beta-hydroxycholesterol metabolite (PubMed:15095019, PubMed:15152005). 7-oxocholesterol is one of the most important oxysterols, it participates in several events such as induction of apoptosis, accumulation in atherosclerotic lesions, lipid peroxidation, and induction of foam cell formation (PubMed:15095019). Mediates the 7-oxo reduction of 7-oxolithocholate mainly to chenodeoxycholate, and to a lesser extent to ursodeoxycholate, both in its free form and when conjugated to glycine or taurine, providing a link between glucocorticoid activation and bile acid metabolism (PubMed:21453287). Catalyzes the synthesis of 7-beta-25-dihydroxycholesterol from 7-oxo-25-hydroxycholesterol in vitro, which 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).
Cellular Location	Endoplasmic reticulum membrane; Single-pass type II membrane protein
Tissue Location	Widely expressed, highest expression in liver, lower in testis, ovary, lung, foreskin fibroblasts, and much lower in kidney (PubMed:1885595). Expressed in liver (at protein level) (PubMed:21453287). Expressed in the basal cells of the corneal epithelium and in the ciliary nonpigmented epithelium (both at mRNA and at protein level) (PubMed:11481269).

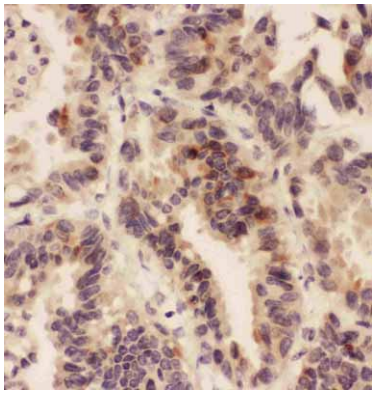
Background

11beta-hydroxysteroid dehydrogenase type 1 is an NADPH-dependent enzyme highly expressed in key metabolic tissues including liver, adipose tissue, and the central nervous system. In these tissues, HSD11B1 reduces cortisone to the active hormone cortisol that activates glucocorticoid receptors. It is inhibited by carbenoxolone, a drug typically used in the treatment of peptic ulcers. Tannin et al.(1991) localized the HSD11B1 gene to chromosome 1. The localization was confirmed by isolating the gene from a chromosome 1-specific library using the cDNA as a probe. Schutte et al.(2000) mapped the HSD11B1 gene to 1q32-q41.

Images



Anti-HSD11B1 (ABO10697) antibody, Western blottingAll lanes: All lanes: Anti HSD11B1 (ABO10697) at 0.5ug/mlLane 1: Rat Liver Tissue Lysate at 50ugLane 2: Rat Testis Tissue Lysate at 50ugLane 3: SMMC Whole Cell Lysate at 40ugLane 4: RAJI Whole Cell Lysate at 40ugLane 5: SW620 Whole Cell Lysate at 40ugPredicted bind size: 32KDObserved bind size: 32KD



Anti-HSD11B1 (ABO10697) antibody, IHC(P)IHC(P): Human Lung Cancer Tissue

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.