11 Beta Hydroxysteroid Dehydrogenase Type 1 (11beta-HSD1) ELISA Kit for Human

PRODUCT OVERVIEW

Product Name	11 beta hydroxysteroid dehydrogenase type 1 (11beta-HSD1), ELISA Kit
Full Product Name	Human 11 beta hydroxysteroid dehydrogenase type 1 (11beta-HSD1) ELISA Kit
Product Gene Name	11beta-HSD1 elisa kit
Product Synonym Names	11-DH; 11-beta-HSD1; HDL; HSD11; HSD11B; HSD11L; MGC13539; SDR26C1; 11-beta-hydroxysteroid dehydrogenase 1|OTTHUMP00000034650|corticosteroid 11-beta-dehydrogenase isozyme 1|short chain dehydrogenase
Species Reactivity	Human
Assay Type	Quantitative Sandwich
Samples	Serum, plasma and other biological fluids
Detection Range	1.56 ng/mL - 100 ng/mL
Sensitivity	0.78 ng/mL (mean of 6 independent assays)
Specificity	This assay has high sensitivity and excellent specificity for detection of Human 11beta-HSD1. No significant cross-reactivity or interference between Human 11beta-HSD1 and analogues was observed.
Preparation and Storage	Store at 2-8 degree C.
Inter-assay Precision	Inter-assay Precision (Precision between assays) Three samples of known concentration were tested in forty separate assays to assess inter-assay precision. CV (%) = SD/meanX100. Inter-Assay: CV<12%
Intra-assay Precision	Intra-assay Precision (Precision within an assay) Three samples of known concentration were tested twenty times on one plate to assess intra-assay precision. Intra-Assay: CV<8%
Molecular Weight	32,401 Da
3D Structure	ModBase 3D Structure for P28845
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Related Product Information for 11beta-HSD1 elisa kit	Principle of the Assay: This assay employs a two-site sandwich ELISA to quantitate 11beta-HSD1 in Human serum, plasma. An antibody specific for 11beta-HSD1 has been pre-coated onto a microplate. Standards and samples are pipetted into the wells and any 11beta-HSD1 present is bound by the immobilized antibody. After removing any unbound substances, a biotin-conjugated antibody specific for 11beta-HSD1 is added to the wells. After washing, Streptavidin conjugated Horseradish Peroxidase (HRP) is added to the wells. Following a wash to remove any unbound avidin-enzyme reagent, a substrate solution is added to the wells and color develops in proportion to the amount of 11beta-HSD1 bound in the initial step. The color development is stopped and the intensity of the color is measured. Intended Uses: For the quantitative detection of Human 11 beta hydroxysteroid dehydrogenase type 1 (11beta-HSD1) concentration in serum, plasma and other biological fluids.
Other Notes	Small volumes of 11beta-HSD1 elisa kit vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.

Searchable Terms for 11beta-HSD1 purchase	MBS284409 is a ready-to-use microwell, strip-or-full plate ELISA (enzyme-linked immunosorbent assay) Kit for analyzing the presence of the 11 beta hydroxysteroid dehydrogenase type 1 (11beta-HSD1) ELISA Kit target analytes in biological samples. The concentration gradients of the kit standards or positive controls render a theoretical kit detection range in biological research samples containing 11beta-HSD1. The ELISA analytical biochemical technique of the MBS284409 kit is based on 11beta-HSD1 antibody-11beta-HSD1 antigen interactions (immunosorbency) and an HRP colorimetric detection system to detect 11beta-HSD1 antigen targets in samples. The ELISA Kit is designed to detect native, not recombinant, 11beta-HSD1. Appropriate sample types may include undiluted body fluids and/or tissue homogenates, secretions. Quality control assays assessing reproducibility identified the intra-assay CV (%) and inter-assay CV(%).

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for 11beta-HSD1. It may not necessarily be applicable to this product.

NCBI GI #	332078483
NCBI GeneID	3290
NCBI Accession #	NP_001193670.1
UniProt Primary Accession #	P28845
UniProt Secondary Accession #	B2R9Z1; D3DT89
UniProt Related Accession #	P28845
GenBank Nucleotide #	NM_001206741.1
NCBI Official Full Name	corticosteroid 11-beta-dehydrogenase isozyme 1
NCBI Official Synonym Full Names	hydroxysteroid 11-beta dehydrogenase 1
NCBI Official Symbol	HSD11B1
NCBI Official Synonym Symbols	HDL; 11-DH; HSD11; HSD11B; HSD11L; CORTRD2; SDR26C1; 11-beta-HSD1
UniProt Protein Name	Corticosteroid 11-beta-dehydrogenase isozyme 1
UniProt Synonym Protein Names	11-beta-hydroxysteroid dehydrogenase 1; 11-DH; 11-beta-HSD1; Short chain dehydrogenase/reductase family 26C member 1
Protein Family	Estradiol 17-beta-dehydrogenase
UniProt Gene Name	HSD11B1
UniProt Synonym Gene Names	HSD11; HSD11L; SDR26C1; 11-DH; 11-beta-HSD1
NCBI Protein Information	corticosteroid 11-beta-dehydrogenase isozyme 1
NCBI Summary for 11beta-HSD1	The protein encoded by this gene is a microsomal enzyme that catalyzes the conversion of the stress hormone cortisol to the inactive metabolite cortisone. In addition, the encoded protein can catalyze the reverse reaction, the conversion of cortisone to cortisol. Too much cortisol can lead to central obesity, and a particular variation in this gene has been associated with obesity and insulin resistance in children. Mutations in this gene and H6PD (hexose-6-phosphate dehydrogenase (glucose 1-dehydrogenase)) are the cause of cortisone reductase deficiency. Alternate splicing results in multiple transcript variants encoding the same protein.[provided by RefSeq, May 2011]

UniProt Comments for 11beta-HSD1	HSD11B1: Catalyzes reversibly the conversion of cortisol to the inactive metabolite cortisone. Catalyzes reversibly the conversion of 7-ketocholesterol to 7-beta-hydroxycholesterol. In intact cells, the reaction runs only in one direction, from 7- ketocholesterol to 7-beta-hydroxycholesterol. Defects in HSD11B1 are a cause of cortisone reductase deficiency (CRD). In CRD, activation of cortisone to cortisol does not occur, resulting in adrenocorticotropin-mediated androgen excess and a phenotype resembling polycystic ovary syndrome (PCOS). Belongs to the short-chain dehydrogenases/reductases (SDR) family. Protein type: EC 1.1.1.146; Endoplasmic reticulum; Lipid Metabolism - C21-steroid hormone; Lipid Metabolism - androgen and estrogen; Membrane protein, integral; Nuclear envelope; Oxidoreductase Chromosomal Location of Human Ortholog: 1q32.2 Cellular Component: endoplasmic reticulum membrane; integral component of membrane; membrane Molecular Function: 11-beta-hydroxysteroid dehydrogenase [NAD(P)] activity Biological Process: glucocorticoid biosynthetic process; lung development Disease: Cortisone Reductase Deficiency 2
Research Articles on 11beta-HSD1	**1.** The present study shows the temporal localisation of 11beta-HSD1 in uterus, highlighting its importance in the timing of gestation and suggesting its contribution in the myometrium contraction.
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