ALPHA DIAGNOSTIC INTERNATIONAL

Product Specification Sheet

LIFE TECH Life Technologies™ Your Molecular & Cell Technology Partner

11-Beta-hydroxysteroid dehydrogenase-2 (11β-HSD2) Antibodies

Cat. # BHSD22-S	Rabbit Anti-Mouse 11β-HSD2 antiserum	**SIZE**: 100 ul
Cat. # BHSD22-A	Rabbit Anti-Mouse 11β-HSD2 IgG (Aff pure)	**SIZE**: 100 ug
Cat. # BHSD22-P	Mouse 11β-HSD2 Control/blocking peptide	**SIZE**: 100 ug

11-β-hydroxysteroid dehydrogenase (11β-HSD) is a microsomal short chain dehydrogenase/reductase (SDR) which catalyzes the inter-conversion of biologically active glucocorticoid (cortisol in human and corticosterone in rats and mice) and inactive glucocorticoid (cortisone and 11-dehydrocorticosterone). Two tissue specific isoforms (**11β-HSD1** and **11β-HSD2**) of 11β-HSD with two different functions regarding glucocorticoid availability, have been identified. The decreased 11β-hydroxy oxidation of cortisol results in Apparent Mineralocorticoid Excess (AME) disorder which is manifested by hypertension, hypokalemia, low plasma renin activity, and responsiveness to spironolactone. AME is principally a disorder of juveniles and children with this condition oxidize cortisol to cortisone poorly but carry out the reverse process unimpaired. AME arises from mutations in the 11β-HSD2 gene. The glucocorticoids can also be produced locally by **11β-HSD1** and increased visceral accumulation of glucocorticoids results in visceral obesity, insulin resistant diabetes, hyperlipidemia and hyperphagia.

11βHSD-2 (rat 400-aa, mouse 396-aa, human 405-aa) is a ~41 kDa glycosylated membrane-protein present in the endoplasmic reticulum (ER). The N-terminal and C-terminal (catalytic domain) of 11β-HSD2 are in the lumen and cytoplasm of ER, respectively. 11β-HSD2 irreversibly catalyzes the dehydrogenation of active 11β-hydroxycorticoids before they occupy mineralocorticoid receptors (MR) and thus confers aldosterone selectivity for inherently nonselective MR. The enzyme is expressed in a wide array of tissues, with highest level mineralocorticoid target cells such as the renal and outer medullary collecting ducts. In mouse, rat and Human, the over-all aa seq of 11β-HSD2 is >80% identical. In mouse, the over-all aa seq of 11β-HSD2 is >80% identical to that of 11β-HSD2.

Source of Antigen and Antibodies

Antigen	A 16-aa peptide (designated **BHSD22-P or control peptide**) Gene Accession # P51661, mapping near the C-terminus of **Mouse 11□-HSD2** (1) synthesized, coupled to KLH, and **polyclonal** antibodies generated in **rabbits**. ;Epitope location ~ Mid-region
Ab Host/type	Rabbit, polyclonal Aff pure IgG1 (**cat #** BHSD22-A) purified over the antigen column
2-ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available
-ve control	# 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as –ve control

Form & Storage of Antibodies/Peptide Control

Antiserum (unpurified)
100ul solution lyophilized powder
Supplied in Buffer: 0.05% azide

Reconstitute powder in 100 ul PBS

Affinity pure IgG
100 ug/100ul solution lyophilized powder
Supplied in **Buffer**: PBS+0.1% BSA
Reconstitute powder in PBS at 1mg/mlControl/blocking peptide

100 ug/100 ul solution lyophilized powder
Supplied in Buffer: PBS pH 7.5,

Reconstitute powder in PBS at 1 mg/ml.

Storage

Short-term: unopened, undiluted liquid vials at -20OC and powder at 4oC or -20oC..

Long-term: at –20C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at –20oC or below.
Shipping: 4oC for solutions and room temp for powder

Recommended Usage

Western Blotting (1:1K-5K for neat serum and 1-10 ug/ml for affinity pure using Chemiluminescence technique).

ELISA (1:10K-1:100K; using 50-100 ng of control peptide/well).

Histochemistry & Immunofluorescence: not tested. We recommend the use of affinity pure antibody at 2-20 ug/ml.

Specificity & Cross-reactivity

The mouse **BHSD22-P** peptide is not well conserved in rat and human 11□-HSD2. We recommend the use of cat # BHD21-A and BHD23-A for rat and human 11□-HSD2, respectively. No significant sequence homology of **BHSD22-P** is seen with 11□-HSD1 or other proteins. Control peptide, because of its low mol. Wt (<3 kDa), is not suitable for Western. It should be used for ELISA or antibody blocking experiments (use 5-10 ug control peptide per 1 ug of aff pure IgG or 1 ul antiserum) to confirm antibody specificity (see detailed protocol at web site.

General References: (1) Zhou MY et al (1995) Endocrinol. 136, 3729-3734; Albiston AL et al (1994) Mol. Cell. Endocrinol. 105, R11; Agarwal AK et al (1995) Genomics 29, 195, Brown RW et al (1996) Biochem. J. 313, 1007, Mune T et al (1995) nat. Genet. 10, 394; Masuzaki et al. (2001) Science 294, 2166; Odermatt et al. (1999) J. Bio. Chem. 274, 28762; Blum et al. (2000) BBRC. 276, 428.

**This product is for In vitro research use only.*

Related material available from ADI

BHSD22-S-A-P 71208S

India Contact:
Life Technologies (India) Pvt. Ltd.
306, Aggarwal City Mall, Opposite M2K Pitampura, Delhi – 110034 (INDIA). Ph: +91-11-42208000, 42208111, 42208222, Mobile: +91-9810521400, Fax: +91-11-42208444
Email: customerservice@lifetechindia.com Website: www.lifetechindia.com