ALPHA DIAGNOSTIC INTERNATIONAL

Product Specification Sheet

β3 Adrenergic Receptor (β3AR) Antibodies

Cat. B3AR12-S	**Rabbit** Anti-Human beta 3 Adrenergic Receptor, antisera	**SIZE**: 100 ul
Cat. B3AR12-A	**Rabbit** Anti- Human beta 3 Adrenergic Receptor Ig G (aff pure)	**SIZE**: 100 ug
Cat. B3AR12-P	Human beta 3 Adrenergic Receptor Control peptide	**SIZE**: 100 ug

The beta 3-adrenergic receptor (B3AR) is a member of the super-family of G protein-coupled receptors that are characterized by seven putative transmembrane helices connected by hydrophilic loops. The mechanism by which the activated beta ARs transmit the signals across the plasma membrane involves the stimulation of Gs, which in turn activates adenyl cyclase, yielding the second messenger cAMP. (B3AR) is present primarily in adipocytes The beta 3-adrenoceptor plays a significant role in the control of lipolysis and thermogenesis in the brown adipose tissue of rodents and humans. In human beta 3-adrenoceptor, a Trp to Arg replacement has recently been discovered. This change which occurs at position 64, in the first coding exon, has been correlated with increased weight gain, difficulty in losing weight, insulin resistance syndrome, and worsened diabetic situation. Higher percentages of this mutation are observed in Pima Indians (over 30%) and Japanese (20%). Thus, chronic stimulation of the beta 3-adrenergic receptor by highly selective B3AR agonist CL316,243, induces ectopic expression of UCP1 in adipose tissues and skeletal muscle, which may contribute to the potent anti-obesity effect of the beta 3-adrenergic agonist. Human B3AR is a 408 AA membrane protein (rat/mouse, 400 AA). The N-terminus is predicted to be extracellular, while the C-terminus intracellular.

Human beta 3 adrenergic (B3AR) is a member G-protein coupled receptor superfamily. They typically contain 7 transmembrane domains (1) Human B3AR is 408 AA membrane protein (2).

Source of Antigen and Antibodies

Antigen	19aa peptide of Human B3AR **Designated (B3AR12-P or control peptide). Epitope location** ~ C-terminus
Ab Host/type	Rabbit, polyclonal, Unpurified antiserum (cat #B3AR12-S) Aff pure IgG (**cat #B3AR12-A**)purified over the antigen column
2ab	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/ml

Control/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 20°C and powder at 4°C or -20°C..

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

Stability: 6-12 months at –20°C or below.
Shipping: 4°C 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 B3AR control peptide/well).

Histochemistry & Immunofluorescence: we recommend the use of affinity purified antibody at 2-20 ug/ml in formaldehyde fixed tissue.

Specificity & Cross-reactivity

The 19 AA human B3AR, splice form 3, immunogenic peptide sequence is 68% homologous with canine B3AR (13/19 AA), and human B3AR splice form 2. The human B3AR does not have significant homology with the mouse/rat B3AR. Anti-B3AR12 antibodies are not likely to crossreact with mouse/rat B3AR. Antibody crossreactivity in various species is not established. 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: the web site).

General References:

Barak, LS et al (1995) Biochem. 34, 15407, Emorine LJ et al (1989) Science 245, 1118; Van Spronsen, a et al (1993) Eur. J. Biochem. 213, 1117; Lelias, JM et al (1993) FEBS Lett. 324, 127; Grannenman, JG et al (1992) Mol. Pharmacol. 42, 964-970.

Citations of ADI's antibodies for Beta 3- Andrenegic Receptors (see updated list at:the web site)

*This product is for in vitro research use only.

Some New Antibodies from ADI...

Obesity Research: Leptin and Leptin Receptors • Uncoupling Proteins (UCP1, UCP2, and UCP3) • Agouti and Agouti-related protein (AGRP) • Tubby • TUB Homolog • TULP1 and TULP2 • β3-Adrenergic Receptors • Bombesin receptor subtype 3 (BRS-3) • Fatty acid binding proteins (FABPs) • NPY Receptors • Glucose Transporters (Glut 1-7) • /SGLT-1/2**Agingg and Molecular Clock** • Klotho • Per • Clock • AhR • **Cancer Antigens** • AIB1 (Activated Breast Cancer) • p73α/β • p53 • Estrogen Receptor β • **Bone Morphogenesis** • BMPs (2, 4) • Matrix Gla proteins • Osteopontin • Cbfa1/2

B3AR12-S-A-P 71215S

Alpha Diagnostic Intl Inc., 6203 Woodlake Center Dr, San Antonio, TX 78244, USA; **Email**: service@4adi.com
☎ (800) 786-5777; (210) 561-9515; **Fax**: (210) 561-9544; **Web Site**: www.4adi.com