ALPHA DIAGNOSTIC INTERNATIONAL

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Product Specification Sheet

Ghrelin Antibodies

Cat. GHS11-S	Rabbit Anti-Human Ghrelin antiserum # 1	**SIZE**: **100 ul**
Cat. GHS11-A	Rabbit Anti-Human Ghrelin IgG #1 (affinity pure)	**SIZE**: **100 ug**
Cat. GHS11-P	Human Ghrelin Control/blocking peptide # 1	**SIZE**: **100 ug**

Growth hormone (GH), produced and released from the anterior pituitary, controls body growth, carbohydrate–protein–lipid metabolism and water–electrolyte balance. GH secretagogues (GHSs) are synthetic compounds that are potent stimulators of GH release. GHSs, act through a novel orphan G-protein-coupled receptor (GPCR), the **GHS receptor (GHS-R)**. **Ghrelin** ('ghre' is the Proto-Indo-European root of the word "grow") has been purified and identified from rat and human stomach as the endogenous ligand for the GHS-R. The rat and human mature Ghrelin (28-aa) are produced from 117 amino acids precursor. In rat stomach, a 28-aa **Ghrelin** and **des-Gln14-Ghrelin** (deletion of Gln14) are produced due to alternative splicing of Ghrelin mRNA. The activity of both Ghrelins is the same. However, des-Gln14-Ghrelin is only present in low amounts in the stomach, indicating that Ghrelin is the major active form. Ghrelin has an unusual modification at Ser3 residue that is **n-octanoylated** and it is essential for biological activity. Ghrelin is the first known example of a bioactive peptide modified by an acyl acid.

Rat Ghrelin is expressed in the stomach, small and large intestines, and brain regions (hypothalamic arcuate nucleus) that are involved the regulation of food intake. Both Ghrelin and GHS-R expression is detected in the heart, suggesting that Ghrelin might have some cardiovascular effects. Ghrelin administration stimulates GH secretion but also causes weight gain by increasing food intake and reduction in fat utilization and anti-Ghrelin IgG administration suppressed feeding.

Source of Antigen and Antibodies

Antigen	A 13 aa peptide, **n-octanoylated at Ser3**, sequence (designated **GHS11-P or control peptide**) from the N-terminus of mature **human ghrelin** conjugated to KLH
Ab Host/type	Rabbit, Polyclonal unpurified antiserum (#**GHS11**-S) and IgG, purified over antigen-agarose (Cat # **GHS11**-A)
2-Ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).

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 -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). An antibody made to the ERAB11 epitope has detected ~ 27 kDa protein in the brain.

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

Histochemistry & Immunofluorescence. We recommend the use of affinity purified antibody at 10-30 ug/ml in formaldehyde fixed, paraffin-embedded tissues (1).

Specificity & Cross-reactivity

The 13-aa human GHS11-P sequence is 94% conserved in pig, and 84% in bovine, canine, mouse, and rat ghrelins. The sequence is the same in des-ghrelins. Antibody cross-reactivity in various species has not been studied. 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: (1) Kojima M et al (1999) Nature 402, 656; Hosoda H et al (2000) J. Biol. Chem. 275, 2199; Nakazato M et al (2001) Nature 409, 194; Tschop et al (2000) Nature 407; 908.

(2) Citations of ADI's Antibodies (see web site for updated list)

Lai JKC, 2005,

*This product is for in vitro research use only.

Some New Antibodies from ADI…

NMU and NMUR1/2, NTR1-3 receptors, Motilin and Motilin receptor, Orexin and OXR1/2, CART, and Leptin receptors; **Full length ghrelin and des-ghrelin** (acylated and non-acylated) are also available for antibody and other studies.

GHS11-S-A-P 71212J

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