

Product Specification Sheet

**Ghrelin Antibodies**

<b>Cat.</b> GHS12-S	<b>Chicken</b> Anti-Human Ghrelin antiserum (Antisera # 1)	<b>SIZE:</b> 100 ul
<b>Cat.</b> GHS12-A	<b>Chicken</b> Anti-Human Ghrelin IgG # 1 (affinity pure)	<b>SIZE:</b> 100 ug
<b>Cat.</b> GHS12-P	Human Ghrelin Control/blocking peptide # 1	<b>SIZE:</b> 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 in 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**

A 15 aa peptide sequence (designated **GHS12-P** or **control peptide**) from the C-terminus of mature **human ghrelin** (1) was coupled to KLH and antibodies generated in **Chickens**.

**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 15-aa human GHS12-P sequence is 100% conserved in mouse, canine, rat, 86% in pig, and 66% in bovine ghrelin. Antibody cross-reactivity in various species has not been studied. Control peptides, because of its small size (2-3 kDa), is not recommended for Western. It should be used in ELISA or antibody blocking experiments to demonstrate antibody specificity. **Full length ghrelin and des-ghrelin** (acylated and non-acylated) are also available for antibody and other studies. (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.

\*This product is for in vitro research use only.

**Some New Antibodies from ADI...**

- Neuromedin U, NMU and NMUR1/2, Neurotensin & NTR1-3 receptors, Motilin and Motilin receptor, Orexin and orexin receptors, CART, and Leptin receptors

**Western Blot recycling kit** (Use the same blot to probe with multiple antibodies) **recycle blot in 5-10 min.**

Study distribution of proteins in **pre-made protein blots of brain, kidney, GI-tract, and major tissues**

GHS12-S-A-P

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