

Product Specification Sheet

Rat Ghrelin (full length)

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| Cat. GHS41-P | Purified Rat ghrelin (28 aa, Ser3 acylated) FORM: Soln | SIZE: 100 ug Lyophilized |
| Cat. GHS45-P | Purified Rat ghrelin (28 aa, Ser3 not acylated) FORM: Soln | SIZE: 100 ug Lyophilized |

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

Rat full length ghrelin, 1-28-aa and n-octanoylated at ser3, peptide (designated cat #**GHS45-P**) was synthesized and purified (>95%) by hplc.

Cat # GHS41-P

Sequence:

Gly-Ser-**Ser(n-octanoyl)**-Phe-Leu-Ser-Pro-Glu-His-Gln-Lys-Ala-Gln-Gln-Arg-Lys-Glu-Ser-Lys-Lys-Pro-Pro-Ala-Lys-Leu-Gln-Pro-Arg

Mol Wt: 3314.8
Formula: C₁₄₇H₂₄₅N₄₅O₄₂
Form: Powder

Solubility: Water (1 mg/ml)

Cat # GHS45-P

Sequence:

Gly-Ser-**Ser(acetyl)**-Phe-Leu-Ser-Pro-Glu-His-Gln-Lys-Ala-Gln-Gln-Arg-Lys-Glu-Ser-Lys-Lys-Pro-Pro-Ala-Lys-Leu-Gln-Pro-Arg

Mol Wt: 3231.7
Formula: C₁₄₁H₂₃₄N₄₅O₄₂
Form: Powder

Solubility: Water (1 mg/ml)

Form & Storage of Antibodies/Peptide Control

Purified peptide is provided in powder or in water (1 mg/ml). Powder should be dissolved in appropriate buffer prior to its usage. NO preservative or other additives are added.

Store powder at -20oC for up to 6 months. After reconstitution in water, store solution in small aliquots at -20oC for 3-6 months. Do not freeze and thaw or store

Recommended Usage

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

Biological activity of ghrelin is not established. It can be used in ELISA, dot blot, or western as a positive control for anti-ghrelin or to block antibody activity.

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...

Rat Ghrelin (non ser3 acylated; human Ghrelin also available).

Antibodies to Ghrelin and ghrelin receptor

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

GHS41-45-P 70313A

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