ALPHA DIAGNOSTIC INTERNATIONAL

LIFE TECH Life Technologies™ Your Molecular & Cell Technology Partner

Product Specification Sheet

Ghrelin (full length)

Cat. GHS50-P	Purified human ghrelin (28 aa, **Ser3 acylated**)		**SIZE**: **1 mg**
	FORM:	Soln	Lyophilized
Cat. GHS51-P	Purified human ghrelin (28 aa, **Ser3 acylated**)		**SIZE**: **100 ug**
	FORM:	Soln	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 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

Human full length ghrelin, 1-28-aa and n-octanoylated at ser3, peptide (designated **GHS50-P and GHS51-P**) was synthesized and purified by hplc. Human ghrelin: GS(X) FLS PEH QRV QQR KES KKP PAK LQP R; X=serine modified with n-octanoic acid, mol wt. 3374.00.

Form & Storage of Antibodies/Peptide Control

Purified peptide (1mg size) is provided in powder. It should be dissolved in appropriate buffer prior to its usage. The 100-ug ghrelin peptide is dissolved in water, aliquoted, and supplied as lyophilized powder. NO preservative or other additives are added.

All peptides should be stored frozen at -20^{o}C or below in suitable aliquots. Avoid repeated freeze and thaw.

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…

• 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**

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