

Human Gastrin I ELISA Kit (GAST) ab133033

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Overview

Product name Human Gastrin I ELISA Kit (GAST)

Detection method Colorimetric

Precision Intra-assay

Sample	n	Mean	SD	CV%
Medium conc	16	471pg/ml		= 3.7%
High conc	16	920pg/ml		= 5.7%
Low conc	16	278pg/ml		= 8.8%

Inter-assay

Sample	n	Mean	SD	CV%
Low conc	8	278pg/ml		= 4.4%
Medium conc	8	328pg/ml		= 6.5%
High conc	8	1065pg/ml		= 3.4%

Sample type Cell culture supernatant, Serum, Plasma

Assay type Competitive

Sensitivity 7.27 pg/ml

Range 39.1 pg/ml - 10000 pg/ml

Recovery Sample specific recovery

Sample type	Average %	Range
Serum	= 101.9	% - %
Tissue Culture Media	= 100.6	% - %
Cit plasma	= 107.9	% - %

Assay time

5h 00m

Assay duration

Multiple steps standard assay

Species reactivity**Reacts with:** Human**Product overview**

Abcam's Gastrin 1 (GAST) *in vitro* competitive ELISA (Enzyme-Linked Immunosorbent Assay) kit is designed for the accurate quantitative measurement of Gastrin 1 (GAST) in tissue culture media, Human serum and Plasma (citrate).

A goat anti-rabbit IgG antibody has been precoated onto 96-well plates. Standards or test samples are added to the wells, along with an alkaline phosphatase (AP) conjugated-Gastrin 1 antigen and a polyclonal rabbit antibody specific to Gastrin 1. After incubation the excess reagents are washed away. pNpp substrate is added and catalyzed by AP to produce a yellow color. The optical density of the yellow coloration at 405 nm is inversely proportional to the amount of Gastrin 1 captured in the plate.

Notes

Gastrins are a family of sequence-related carboxyamidated peptides produced by endocrine G Cells of the antrum mucosa in response to a number of stimuli associated with digestion. Antral distension, partially digested proteins, amino acids, and vagal stimulation resulting from smelling, tasting, chewing or swallowing food all contribute to gastrin release from G Cell storage. In addition, caffeine, alcohol, hypoglycemia, antacids and elevated calcium levels will also stimulate gastrin release. Increased serum gastrin levels are associated with duodenal ulcers, *Helicobacter pylori* infections, colorectal carcinomas, and other tumors and cancerous lesions. Gastrin is the most potent stimulator of gastric acid secretion.

Gastrin-I (G17): H₂N-Glu-Gly-Pro-Trp-Leu-Glu-Glu-Glu-Glu-Ala-Tyr-Gly-Trp-Met-Asp-Phe-NH₂

Gastrin is synthesized as a 101 residue pre-pro-peptide on the rough endoplasmic reticulum, then post-translationally modified by cleavage and alpha-amidation to result in the active forms G34, G17 and G13/14; Big, Little and Mini-Gastrins respectively. Other forms also exist, but are not considered biologically significant. There are two types of G17 and G34, type II is sulfated at the tyrosine12 residue, while type I is not. Both G34 and G17 circulate and contribute to the stimulation of gastric acid secretion, but have different clearance rates. In man, G17 has a circulating half-life of about 9 minutes while G34 has a half-life of about 35 minutes.

G34 is the major circulating gastrin in fasting serum, but with G17, increases two to three-fold after feeding until both are present in approximately equal amounts. Fasting gastrin concentration is usually less than 30 pmol/l (equivalent to 62.9 pg/ml) while patients with Zollinger-Ellison Syndrome and gastrinomas have levels exceeding 1,000 pg/ml.

Cross Reactivity

Compound	% Cross Reactivity
Human Gastrin I (G17-I)	100
Minigastrin (G13-I)	74.6
Rat Gastrin I	70.7
Gastrin II (G17-II, sulfated)	9.3

Cholecystokinin 26-33 (CCK-8)	2.67
Gastrin Tetrapeptide (CCK-4)	1.6
Big Gastrin (G34-I)	0.8
Gastrin Releasing Peptide (GRP)	<0.001

Platform Microplate

Properties

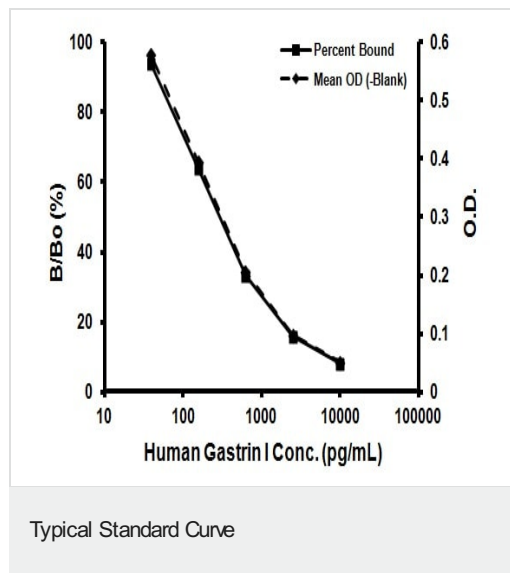
Storage instructions Store at +4°C. Please refer to protocols.

Components	1 x 96 tests
20X Wash Buffer Concentrate	1 x 27ml
Assay Buffer	1 x 27ml
Gastrin I Alkaline Phosphatase Conjugate	1 x 5ml
Gastrin I Antibody	1 x 5ml
Goat anti-rabbit IgG Microplate (12 x 8 wells)	1 unit
Human Gastrin I Standard	1 x 0.5ml
pNpp Substrate	1 x 20ml
Stop Solution	1 x 5ml

Relevance Gastrin stimulates the stomach mucosa to produce and secrete hydrochloric acid and the pancreas to secrete its digestive enzymes. It also stimulates smooth muscle contraction and increases blood circulation and water secretion in the stomach and intestine.

Cellular localization Secreted

Images



Representative Standard Curve using ab133033

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