

# Total Glucagon-like Peptide-1 (GLP-1)

Enzyme-Linked Immunoassay Kit



**Introduction:** Glucagon-like peptide-1 (GLP-1) is a 30-amino acid gut hormone secreted from the intestinal L-cells. The GLP-1 sequence is highly conserved among mammals and is released in its active form (7-36) in response to food intake. It is quickly degraded into its inactive form (9-36) after selective cleavage by dipeptidyl peptidase-4 (DPP-4). GLP-1 reduces glucose levels by regulating pancreatic secretion, slowing gastric emptying and lowering the desire for food intake. Therefore, it is an important biomarker for the study of diabetes and obesity<sup>1-5</sup>.

Researchers have struggled with finding reliable GLP-1 assays. A 2014 study by Jens J Holst's group in Denmark evaluated several commercially available GLP-1 immunoassays and concluded that the specificity and sensitivity of the various assays vary significantly.

In consultation with several key opinion leaders, Ansh Labs has screened countless monoclonal antibodies and tested numerous assay validation protocols to identify the optimal antibody pair. We are confident that our GLP-1 ELISA kit will set the standard in GLP testing allowing researchers to accurately quantify GLP-1.

## ANSH LABS ADVANTAGES

### Accurate

EDTA plasma samples containing various GLP-1 levels were diluted in GLP-1 Calibrator A (CAL-172A) and then added to PLT-SPE-01 and run as per the assay procedure. The % recovery on individual samples is represented in the following table.

Sample No.	Dilution Factor	Expected Conc. (pg/mL)	Observed Conc. (pg/mL)	% Recovery
GLP-1 Ag	Neat	106.50	NA	NA
	1:2	53.25	54.30	102%
	1:4	26.62	25.78	97%
	1:8	13.31	12.83	96%
	1:32	6.66	6.74	101%
Sample 1	Neat	56.83	NA	NA
	1:2	28.42	26.65	94%
	1:4	14.21	13.30	94%
	1:8	7.10	6.55	92%
Sample 2	Neat	26.73	NA	NA
	1:2	13.36	13.30	90%
	1:4	6.68	7.22	108%

### Specific

This total GLP-1 assay is calibrated against human GLP-1 and cross reactivity to other closely related analytes is listed in the table.

Analytical measurable range of approximately 28-425 pg/mL  
Wide dynamic range for detection of GLP-1 studies of a variety of physiological states.

Specific to Total GLP-1

Does not show any cross-reactivity to Oxyntomodulin, GLP-2, or Glucagon (1-29)

Sensitive to 1.9 pg/mL

Kit includes all reagents needed to run a 96-well plate, shipped at ambient temperatures and stored at 2-8°C

No need to buy or make additional reagents.

Long shelf-life

24 months from the date of manufacture; minimizing assay lot changes for long term studies.

Sample No.	Cross-reactant	Concentration	% Cross-reactivity
1	Insulin	10 ng/mL	ND
2	Thyroglobulin	10 ng/mL	ND
3	C-Peptide	10 ng/mL	ND
4	GLP-2	1000 ng/mL	ND
5	GRPP	1000 ng/mL	ND
6	Oxyntomodulin	1000 ng/mL	ND
7	Glucagon	1000 ng/mL	ND
8	Glicentin	1000 ng/mL	ND
9	MPGF-1	1 ng/mL	ND
10	GLP-1 (7-36)	100 pg/mL	22.6%
11	GLP-1 (9-36)	100 pg/mL	100%
12	GLP-1 (1-36)	5 ng/mL	4.4%

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## Product Listing

GLP-1 is a useful research tool for studies related to:

- Obesity
- Diabetes
- Pancreatitis
- Eating Disorders
- Pancreatic Tumors
- Growth Hormone Deficiency
- Insulin insensitivity and resistance
- Therapeutic monitoring in GLP-1 Theory

## ELISA 96 Wells

Method	Quantitative 2-step sandwich type immunoassay
Incubation Time	Total 2.5 hour incubation at room temperature
Approximate Dynamic Range	6 points, 15-213 pg/mL
Sensitivity	1.9 pg/mL
Sample Size / Type	50 µL / Human K2EDTA Plasma (non-extraction) 20 µL / Rodent K2EDTA Plasma (pre-dilution)
Shelf-life	24 months
Catalog Number	AL-172

## Related Assays

GLP-2	96-Well ELISA	AL-174
Glucagon	96-Well ELISA	AL-157 [FDA,CE]
Oxyntomodulin	96-Well ELISA	AL-139
C-Peptide of Insulin	96-Well ELISA	AL-151
Proglucagon	96-Well ELISA	AL-1019
Glicentin	96-Well ELISA	AL-185

\*Unless otherwise stated here, in our catalog, or other product documentation, these kits are intended for research use only and not for in vitro diagnostic purposes or therapeutic uses.

POS.172.1224.USINTL

### Reproductive Function

Activin A [CE]  
Activin B  
Activin AB  
AFP  
AMH [CE]  
AMH, Dried Blood Spot [CE]  
AMH (PCOCheck™) [CE]  
picoAMH (MenoCheck®) [FDA, CE]  
BMP-15  
Estriol [FDA, CE]  
Follistatin  
Follistatin Like-3  
FSH  
FSH, Dried Blood Spot  
GDF-9  
GDF-9/BMP-15 Complex  
GDF-15, Total  
GDF-15, H-Specific  
Inhibin, Total  
Inhibin A [FDA, CE]  
picoInhibin A  
Inhibin A (OMQCheck™)  
Inhibin B [CE]  
Inhibin B, Ultra-Sensitive [CE]  
LH  
LH, Dried Blood Spot  
PAPP-A [CE]  
PAPP-A2 [CE]  
picoPAPP-A [CE]  
PLGF [CE]  
Prolactin [FDA, CE]  
Prolactin, Dried Blood Spot [CE]

### Specialty Controls

AnshCheck AMH Tri-Level Controls [FDA, CE]  
AnshCheck Inhibin B Tri-Level Controls  
AnshCheck Maternal Screening Bi-Level Controls [FDA, CE]

### Metabolism

C-Peptide of Insulin  
GIP, Intact  
GIP, Total  
Glicentin  
GLP-1  
GLP-2  
Glucagon [FDA, CE]  
Major Proglucagon Fragment  
Oxyntomodulin  
Proglucagon

### Growth Factors

IGF-I, Free  
IGF-I, Total [FDA, CE]  
IGF-II  
IGFBP-2  
IGFBP-3, Intact  
IGFBP-3, Total  
IGFBP-4, Intact  
IGFBP-4, Total  
IGFBP-5  
picoLL-6  
Stanniocalcin 2

### Species Specific Assays

Activin B: Mouse, Rat  
AMH: Bovine, Canine, Equine, Feline, Mouse, Ovine, Porcine, Primate, Rat  
GDF-15: Bovine  
IGF-I, Free: Mouse, Rat  
IGF-I, Total: Mouse, Rat  
IGFBP-4, Intact: Mouse, Rat  
IGFBP-4, Total: Mouse, Rat  
Inhibin A: Canine, Equine, Rodent  
Inhibin B: Canine, Equine, Mouse  
Oxyntomodulin: Mouse, Rat  
PAPP-A: Mouse

### Neuronal Disorders

MBP

\*\*Unless stated otherwise, products are for research use only.

### Customer Relations

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ISO 13485:2016

Ansh Labs is ISO certified for the design, development, manufacturing, services and distribution of reagents/ immunoassay kits for research and in vitro diagnostic applications.