

Glucagon

Enzyme-Linked Immunoassay Kit



Introduction: Glucagon is one of several proteins that can be processed from a 160 amino acid prohormone, called proglucagon, coded by the glucagon gene. Proglucagon processing in the pancreas results in circulating levels of the 29 amino acid hormone glucagon that plays an important physiological role in the regulation of blood glucose levels. Proglucagon is also produced in the gastrointestinal track where two larger proteins, glicentin and oxyntomodulin, that contain the entire glucagon sequence are secreted into blood. Because different circulating proteins contain the full glucagon sequence, accurately measuring glucagon specifically in blood is challenging and requires an assay with antibodies directed against both N- and C- termini.¹

Although Glucagon testing has been around for decades, it has largely remained a research test because Glucagon tests specific enough to give researchers confidence in the results were laborious 2 and 3 day assays with complex sample extraction. A significant limitation to current commercially available assays is due to the lack of standardization and

commutability of the methods used to measure Glucagon in peripheral circulation. Additionally, differences in the design of these methods affects not only quantitative results but also the specificity of the assays with respect to cross-reactivity with glicentin and oxyntomodulin. Such differences impact the interpretation of Glucagon measurements and potentially the validity of their research and clinical usefulness. Indeed, two studies conducted by Jens J. Holst's group in Denmark in 2014 showed that commercially available glucagon immunoassays lack the specificity, sensitivity, dynamic ranges, and precision necessary to obtaining accurate measurements of Glucagon in blood.^{1,2}

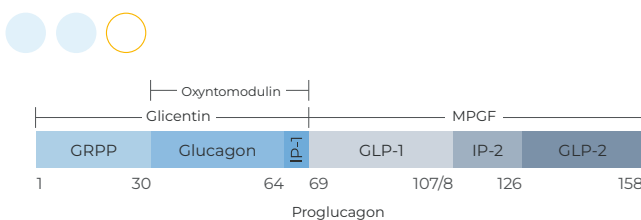
In consultation with several key opinion leaders, Ansh Labs has screened countless monoclonal antibodies and tested numerous assay validation protocols to identify the optimal antibody pair. We are confident that our Glucagon ELISA kit will set a new standard in glucagon testing allowing researchers to more accurately detect glucagon abnormalities in diabetes and insulin replacement therapies.

ANSH LABS ADVANTAGES

Specific

No cross-reactivity with several proglucagon-derived peptides. Cross-reactivity data against common Glucagon drugs is listed in the IFU.

Sample Name	Concentration	% Cross-reactivity
Inhibin A	100 ng/mL	ND
Inhibin B	1 ng/mL	ND
Activin A	50 ng/mL	ND
Activin AB	2 ng/mL	ND
FST-288	50 ng/mL	ND
FST-315	50 ng/mL	ND
FSTL-3	44 ng/mL	ND



Specific to Glucagon

Does not show any cross-reactivity to Glicentin, GLP-1, GLP-2, GRPP or Oxyntomodulin,

Analytical measurable range of approximately 7-314 pg/mL

Wide dynamic range for accurate quantitations on both hyperglycemic and hypoglycemic samples

Sensitive to 2.4 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.

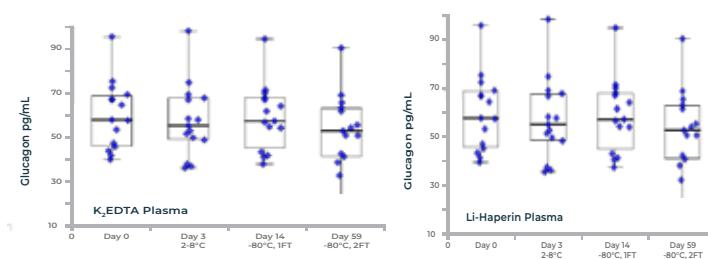
Fast turn around time

Total 2.5 hour incubation at room temperature.

Reliable

Sample types tested: K₂EDTA, Lithium-Heparin Plasma, Serum. Stability in graphs:

- Day 0
- Day 3 at -8°C
- Day 14 at -80°C
- Day 59 at -80°C



Glucagon

Product Listing

Glucagon is a useful research tool for studies related to:

- Diabetes
- Obesity
- Pancreatitis
- Eating disorders
- Pancreatic tumor
- Insulin sensitivity and resistance
- Adult growth hormone deficiency
- Therapeutic monitoring in GLP-1 therapy

ELISA 96 Wells

Method	Quantitative 3-step sandwich type immunoassay
Incubation Time	Total 2.5 hour incubation at room temperature
Approximate Dynamic Range	7 points, 7-314 pg/mL
Sensitivity	2.4 pg/mL
Sample Size / Type	50 µL / Human K2EDTA Plasma (non-extraction)
Shelf-life	24 months
Catalog Number	AL-157 [FDA, CE]

Related Assays

GLP-1	96-Well ELISA	AL-172
GLP-2	96-Well ELISA	AL-174
Proglucagon	96-Well ELISA	AL-1019
Glicentin	96-Well ELISA	AL-185
C-Peptide of Insulin	96-Well ELISA	AL-151
Oxyntomodulin	96-Well ELISA	AL-139
Rat / Mouse Oxyntomodulin	96-Well ELISA	AL-192

*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.

References:

- Diabetologia 2014 57:1919-1926
- European Journal of Endocrinology 2014 170, 529-5388

POS.157.1224.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
picoIL-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.

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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.