SANTA CRUZ BIOTECHNOLOGY, INC.

Glucagon (C-11): sc-514592

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Glucagon is a pancreatic hormone that functions as an antagonist to Insulin, stimulating the conversion of glycogen to glucose and increasing blood sugar levels. Glucagon-like peptide-1 (GLP-1), Glucagon-like peptide-2 (GLP-2), VIP (vasoactive intestinal peptide) and PACAP (pituitary adenylate cyclase activating polypeptide) are members of the Glucagon family of hormones. GLP-1 functions as a transmitter in the central nervous system, inhibiting feeding and drinking behavior, whereas GLP-2 is a stimulator of intestinal epithelial growth. VIP causes vasodilation resulting in the lowering of blood pressure. PACAP is abundant in the hypothalamus and has been shown to increase the synthesis of several hormones, including growth hormone.

CHROMOSOMAL LOCATION

Genetic locus: GCG (human) mapping to 2q24.2; Gcg (mouse) mapping to 2 C1.3.

SOURCE

Glucagon (C-11) is a mouse monoclonal antibody raised against amino acids 1-180 representing full length Glucagon of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Glucagon (C-11) is available conjugated to agarose (sc-514592 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-514592 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514592 PE), fluorescein (sc-514592 FITC), Alexa Fluor® 488 (sc-514592 AF488), Alexa Fluor® 546 (sc-514592 AF546), Alexa Fluor® 594 (sc-514592 AF594) or Alexa Fluor® 647 (sc-514592 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514592 AF680) or Alexa Fluor® 790 (sc-514592 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Glucagon (C-11) is recommended for detection of Proglucagon, Glucagon, GLP-1 and GLP-2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of Proglucagon: 19 kDa.

Molecular Weight of Glucagon: 3 kDa.

Positive Controls: rat pancreas extract: sc-364806.

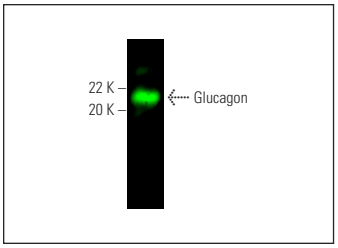
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

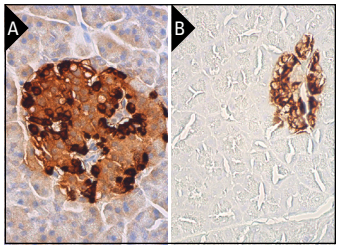
RESEARCH USE

For research use only, not for use in diagnostic procedures.

DATA



Glucagon (C-11) Alexa Fluor® 680: sc-514592 AF680. Direct near-infrared western blot analysis of Glucagon expression in rat pancreas tissue extract. Blocked with UltraCruz® Blocking Reagent: sc-516214.



Glucagon (C-11): sc-514592. Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing cytoplasmic staining of Islets of Langerhans (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded rat pancreas tissue showing cytoplasmic and membrane staining of Islet of Langerhans. Blocked with 0.25X UltraCruz® Blocking Reagent: sc-516214. Detected with m-IgG Fc BP-B: sc-533652 and ImmunoCruz® ABC Kit: sc-516216 (**B**).

SELECT PRODUCT CITATIONS

1. Sahr, A., et al. 2016. The angiotensin-(1-7)/Mas axis improves pancreatic β-cell function *in vitro* and *in vivo*. Endocrinology 157: 4677-4690.
2. Yokawa, S., et al. 2017. Visualization of Glucagon secretion from pancreatic α cells by bioluminescence video microscopy: identification of secretion sites in the intercellular contact regions. Biochem. Biophys. Res. Commun. 485: 725-730.
3. Sharon, N., et al. 2019. Wnt signaling separates the progenitor and endocrine compartments during pancreas development. Cell Rep. 27: 2281-2291.e5.
4. Zhang, T., et al. 2020. APC mutations in human colon lead to decreased neuroendocrine maturation of ALDH+ stem cells that alters GLP-2 and SST feedback signaling: clue to a link between WNT and retinoic acid signalling in colon cancer development. PLoS ONE 15: e0239601.
5. Park, S.J., et al. 2021. Jazf1 acts as a regulator of Insulin-producing β-cell differentiation in induced pluripotent stem cells and glucose homeostasis in mice. FEBS J. 288: 4412-4427.
6. Shigemori, K., et al. 2022. Peripheral Aβ acts as a negative modulator of insulin secretion. Proc. Natl. Acad. Sci. USA 119: e2117723119.
7. Deguchi-Horiuchi, H., et al. 2023. Pancreatic β-cell glutaminase 2 maintains glucose homeostasis under the condition of hyperglycaemia. Sci. Rep. 13: 7291.
8. Wang, S., et al. 2024. Transplantation of chemically induced pluripotent stem-cell-derived islets under abdominal anterior rectus sheath in a type 1 diabetes patient. Cell 187: 6152-6164.e18.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.