

# Somatostatin (YC7): sc-47706

## BACKGROUND

Somatostatin is a regulatory hormone that is expressed throughout the body and inhibits the release of numerous secondary hormones by binding to high-affinity G protein-coupled somatostatin receptors. This cyclic tetradecapeptide inhibits the secretion of many important hormones, including somatotropin (also designated growth hormone, or GH), Insulin and glucagon. Somatostatin is found in both the hypothalamus and pancreas. Somatostatin is thought to be involved in the regulation of Insulin synthesis. The hormone Somatostatin has active 14 amino acid and 28 amino acid forms that are produced by alternate cleavage of the single preproprotein encoded by this gene. In the cerebellum, Somatostatin-14 and Somatostatin-28 are highly expressed at birth and in the adult stage, respectively. Somatostatin affects rates of neurotransmission in the central nervous system and proliferation of both normal and tumorigenic cells. The gene encoding Somatostatin maps to human chromosome 3q27.3.

## CHROMOSOMAL LOCATION

Genetic locus: SST (human) mapping to 3q27.3; Sst (mouse) mapping to 16 B1.

## SOURCE

Somatostatin (YC7) is a rat monoclonal antibody raised against Somatostatin of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2a</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Somatostatin (YC7) is available conjugated to agarose (sc-47706 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-47706 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-47706 PE), fluorescein (sc-47706 FITC), Alexa Fluor<sup>®</sup> 488 (sc-47706 AF488), Alexa Fluor<sup>®</sup> 546 (sc-47706 AF546), Alexa Fluor<sup>®</sup> 594 (sc-47706 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-47706 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-47706 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-47706 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

Somatostatin (YC7) is recommended for detection of Somatostatin of mouse, rat and human origin by Western Blotting (starting dilution 1:500, dilution range 1:500-1:1000), 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) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for Somatostatin siRNA (h): sc-39728, Somatostatin siRNA (m): sc-39729, Somatostatin shRNA Plasmid (h): sc-39728-SH, Somatostatin shRNA Plasmid (m): sc-39729-SH, Somatostatin shRNA (h) Lentiviral Particles: sc-39728-V and Somatostatin shRNA (m) Lentiviral Particles: sc-39729-V.

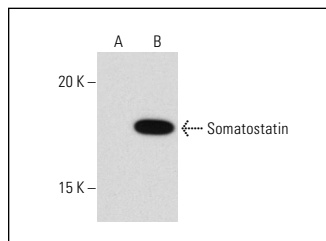
Molecular Weight of Somatostatin: 17 kDa.

Positive Controls: H4 cell lysate: sc-2408 or Somatostatin (h): CHO lysate: sc-110012.

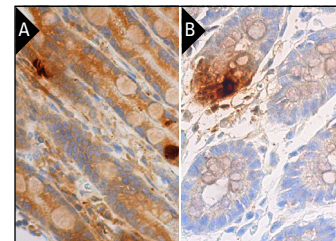
## STORAGE

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

## DATA



Somatostatin (YC7): sc-47706. Western blot analysis of human Somatostatin expression in non-transfected: sc-117750 (A) and human Somatostatin transfected: sc-110012 (B) CHO whole cell lysates.



Somatostatin (YC7): sc-47706. Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing cytoplasmic staining of glandular cells and enteroendocrine cells (A), and of human rectum tissue showing cytoplasmic staining of enteroendocrine cells (B).

## SELECT PRODUCT CITATIONS

- Kustermann, A., et al. 2011. Calretinin and Somatostatin immunoreactivities label different human submucosal neuron populations. *Anat. Rec.* 294: 858-869.
- Jabari, S., et al. 2012. Selective survival of calretinin- and vasoactive-intestinal-peptide-containing nerve elements in human chagasic submucosa and mucosa. *Cell Tissue Res.* 349: 473-481.
- Beyer, J., et al. 2013. Substance P- and choline acetyltransferase immunoreactivities in Somatostatin-containing, human submucosal neurons. *Histochem. Cell Biol.* 140: 157-167.
- Beuscher, N., et al. 2014. What neurons hide behind calretinin immunoreactivity in the human gut? *Histochem. Cell Biol.* 141: 393-405.
- Zetzmann, K., et al. 2018. Calbindin D28k-immunoreactivity in human enteric neurons. *Int. J. Mol. Sci.* 19: 194.
- Vethe, H., et al. 2019. The effect of Wnt pathway modulators on human iPSC-derived pancreatic  $\beta$  cell maturation. *Front. Endocrinol.* 10: 293.
- Legoy, T.A., et al. 2020. Encapsulation boosts islet-cell signature in differentiating human induced pluripotent stem cells via integrin signalling. *Sci. Rep.* 10: 414.
- Kishore, S., et al. 2020. A non-coding disease modifier of pancreatic agenesis identified by genetic correction in a patient-derived iPSC line. *Cell Stem Cell* 27: 137-146.e6.
- Chiazza, F., et al. 2021. The stroke-induced increase of Somatostatin-expressing neurons is inhibited by diabetes: a potential mechanism at the basis of impaired stroke recovery. *Cell. Mol. Neurobiol.* 41: 591-603.

## RESEARCH USE

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

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