

# Insulin B (N-20): sc-7838

## BACKGROUND

Insulin is a secreted peptide hormone that elicits metabolic effects such as increases in glucose uptake and glycogen synthesis leading to a decrease in blood glucose concentration. Insulin is first formed as a precursor molecule, proinsulin, which is later cleaved to proinsulin and finally to the mature Insulin hormone. Mature Insulin consists of 51 amino acids, contained within an A chain and a B chain that are connected by 2 disulfide bridges. It increases cell permeability to monosaccharides, amino acids and fatty acids. Insulin is secreted by the pancreas at basal levels in the absence of exogenous stimuli, with secretion increasing in response to glucose. Insulin action is effected by the binding of Insulin to cell-surface receptors on the target cell membrane. Defects of Insulin are the cause of hyperproinsulinemia and of type-II diabetes mellitus.

## REFERENCES

1. Kahn, C.R. 1985. The molecular mechanism of Insulin action. *Ann. Rev. Med.* 36: 429-451.
2. Lammers, R., et al. 1989. Differential signalling potential of Insulin- and IGF-1-receptor cytoplasmic domains. *EMBO J.* 8: 1369-1375.
3. Jorgensen, A.M., et al. 1996. Solution structure of the superactive monomeric des-[Phe(B25)] Insulin and the dimerization of native Insulin. *J. Mol. Biol.* 257: 684-699.
4. Mackin, R.B. 1998. Proinsulin: recent observations and controversies. *Cell. Mol. Life Sci.* 54: 696-702.
5. Soria, B., et al. 1998. Cytosolic oscillations and Insulin release in pancreatic islets of Langerhans. *Diabetes Metab.* 24: 37-40.

## CHROMOSOMAL LOCATION

Genetic locus: INS (human) mapping to 11p15.5; Ins2 (mouse) mapping to 7 F5.

## SOURCE

Insulin B (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Insulin B of human origin.

## PRODUCT

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

Blocking peptide available for competition studies, sc-7838 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

## APPLICATIONS

Insulin B (N-20) is recommended for detection of the Insulin B chain of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

Insulin B (N-20) is also recommended for detection of the Insulin B chain in additional species, including equine, canine, bovine, porcine, avian and feline.

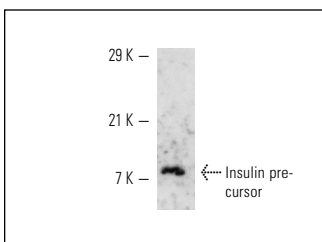
Molecular Weight of Insulin B: 12 kDa.

Positive Controls: MIA PaCa-2 whole cell lysate: sc-2285.

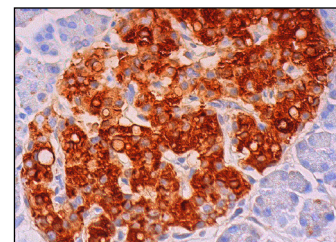
## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

## DATA



Insulin B (N-20): sc-7838. Western blot analysis of Insulin precursor expression in MIA PaCa-2 whole cell lysate.



Insulin B (N-20): sc-7838. Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing cytoplasmic staining of islets of Langerhans.

## SELECT PRODUCT CITATIONS

1. Davoodi-Semiromi, A., et al. 2012. The tyrosinase inhibitor AG490 prevents and reverses type 1 diabetes in NOD mice. *PLoS ONE* 7: e36079.

## RESEARCH USE

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



Try **Insulin B (C-12): sc-377071**, our highly recommended monoclonal alternative to Insulin B (N-20). Also, for AC, HRP, FITC, PE, Alexa Fluor<sup>®</sup> 488 and Alexa Fluor<sup>®</sup> 647 conjugates, see **Insulin B (C-12): sc-377071**.