

# Pepsin C (H-56): sc-99080

## BACKGROUND

Pepsin is one of the main proteolytic enzymes secreted by the gastric mucosa. Pepsin consists of a single polypeptide chain and arises from its precursor, pepsinogen, by removal of a 41 amino acid segment from the N-terminus. Pepsinogen is synthesized in the stomach lining, and hydrochloric acid, also produced by the gastric mucosa, is necessary to convert the inactive enzyme and to maintain the optimum acidity (pH 1-3) for Pepsin function. Pepsin is particularly effective in cleaving peptide bonds involving aromatic amino acids. Pepsin shows extremely broad specificity, and although bonds involving phenylalanine and leucine are preferred, many others are also cleaved to some extent. The amino acid composition of Pepsin C differs from those of pepsinogen and pepsin especially in the content of basic amino acids, glutamic acid, aspartic acid, leucine and isoleucine.

## REFERENCES

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2. Athauda, S.B., et al. 1990. A comparative study on the NH<sub>2</sub>-terminal amino acid sequences and some other properties of six isozymic forms of human pepsinogens and pepsins. *J. Biochem.* 106: 920-927.
3. Moore, S.A., et al. 1995. Crystal and molecular structures of human progastricsin at 1.62 Å resolution. *J. Mol. Biol.* 247: 466-485.
4. Khan, A.R., et al. 1998. Structural characterization of activation "intermediate 2" on the pathway to human gastricsin. *Nat. Struct. Biol.* 4: 1010-1015.
5. Roberts, N.B., et al. 2003. Comparative pepstatin inhibition studies on individual human pepsins and Pepsinogens 1,3 and 5 (gastricsin) and pig pepsin A. *J. Enzyme Inhib. Med. Chem.* 18: 209-217.
6. Athauda, S.B., et al. 2003. Inhibition of human pepsin and gastricsin by α<sub>2</sub>-macroglobulin. *J. Enzyme Inhib. Med. Chem.* 18: 219-224.
7. Sorensen, O.E., et al. 2003. Processing of seminal plasma hCAP-18 to ALL-38 by gastricsin: a novel mechanism of generating antimicrobial peptides in vagina. *J. Biol. Chem.* 278: 28540-28546.

## CHROMOSOMAL LOCATION

Genetic locus: PGC (human) mapping to 6p21.1; Pgc (mouse) mapping to 17 C.

## SOURCE

Pepsin C (H-56) is a rabbit polyclonal antibody raised against amino acids 122-177 mapping within an internal region of Pepsin C 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.

## STORAGE

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

## APPLICATIONS

Pepsin C (H-56) is recommended for detection of Pepsin C of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Pepsin C (H-56) is also recommended for detection of Pepsin C in additional species, including porcine.

Suitable for use as control antibody for Pepsin C siRNA (h): sc-61318, Pepsin C siRNA (m): sc-61319, Pepsin C shRNA Plasmid (h): sc-61318-SH, Pepsin C shRNA Plasmid (m): sc-61319-SH, Pepsin C shRNA (h) Lentiviral Particles: sc-61318-V and Pepsin C shRNA (m) Lentiviral Particles: sc-61319-V.

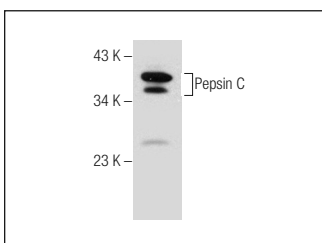
Molecular Weight of Pepsin C: 40 kDa.

Positive Controls: human stomach tissue extract.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



Pepsin C (H-56): sc-99080. Western blot analysis of Pepsin C expression in human stomach tissue extract.

## RESEARCH USE

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

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Try **Pepsin C (E-9): sc-374044**, our highly recommended monoclonal alternative to Pepsin C (H-56).