

# RNase 7 (S-12): sc-165375

## BACKGROUND

RNase 7 (ribonuclease, RNase A family, 7), also known as skin-derived antimicrobial protein 2 (SAP-2), is a 156 amino acid secreted protein belonging to the pancreatic ribonuclease family and RNase A superfamily that is involved in antimicrobial defense of the skin. As an antimicrobial ribonuclease, RNase 7 exhibits broad-spectrum antimicrobial activity against many pathogenic microorganisms and is lethal to *Enterococcus faecium*, which plays an important role in the protection of human skin from *E. faecium* colonization. Expressed in heart, kidney, liver and skeletal muscle, RNase 7 is also found in various epithelial tissues such as respiratory tract, skin, genitourinary tract, and is found at lower levels in colon, stomach and small intestine. The gene encoding RNase 7 maps to human chromosome 14q11.2.

## REFERENCES

- Harder, J. and Schroder, J.M. 2002. RNase 7, a novel innate immune defense antimicrobial protein of healthy human skin. *J. Biol. Chem.* 277: 46779-46784.
- Zhang, J., Dyer, K.D. and Rosenberg, H.F. 2002. RNase 8, a novel RNase A superfamily ribonuclease expressed uniquely in placenta. *Nucleic Acids Res.* 30: 1169-1175.
- Zhang, J., Dyer, K.D. and Rosenberg, H.F. 2003. Human RNase 7: a new cationic ribonuclease of the RNase A superfamily. *Nucleic Acids Res.* 31: 602-607.
- Cho, S., Beintema, J.J. and Zhang, J. 2005. The ribonuclease A superfamily of mammals and birds: identifying new members and tracing evolutionary histories. *Genomics* 85: 208-220.
- Torrent, M., Sánchez, D., Buzón, V., Nogues, M.V., Cladera, J. and Boix, E. 2009. Comparison of the membrane interaction mechanism of two antimicrobial RNases: RNase 3/ECP and RNase 7. *Biochim. Biophys. Acta* 1788: 1116-1125.
- Zanger, P., Holzer, J., Schleucher, R., Steffen, H., Schittek, B. and Gabrys, S. 2009. Constitutive expression of the antimicrobial peptide RNase 7 is associated with *Staphylococcus aureus* infection of the skin. *J. Infect. Dis.* 200: 1907-1915.

## CHROMOSOMAL LOCATION

Genetic locus: RNASE7 (human) mapping to 14q11.2.

## SOURCE

RNase 7 (S-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of RNase 7 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-165375 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

RNase 7 (S-12) is recommended for detection of RNase 7 of 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); non cross-reactive with other RNase family members.

Suitable for use as control antibody for RNase 7 siRNA (h): sc-92112, RNase 7 shRNA Plasmid (h): sc-92112-SH and RNase 7 shRNA (h) Lentiviral Particles: sc-92112-V.

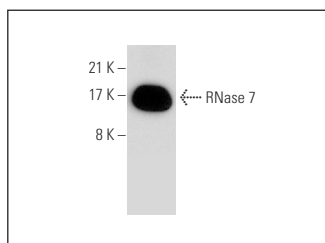
Molecular Weight of RNase 7: 17 kDa.

Positive Controls: human skeletal muscle extract: sc-363776.

## 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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

## DATA



RNase 7 (S-12): sc-165375. Western blot analysis of RNase 7 expression in human skeletal muscle tissue extract.

## 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.

## PROTOCOLS

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