

# RNase K (E-13): sc-138586

## BACKGROUND

Ribonucleases are ubiquitously expressed enzymes that are involved in RNA metabolism and are classified in several families on the basis of their structural, catalytic and biological properties. RNase K (ribonuclease  $\kappa$ ), also known as RNASEK, is a 98 amino acid multi-pass membrane protein that is widely expressed. Belonging to the RNase K family, RNase K acts as an endoribonuclease that preferentially cleaves ApU and ApG phosphodiester bonds, and hydrolyzes UpU bonds at a lower rate. RNase K is encoded by a gene located on human chromosome 17p13.1. Human chromosome 17 makes up over 2.5% of the human genome with about 81 million bases encoding over 1,200 genes. Two key tumor suppressor genes are associated with chromosome 17, namely, p53 and BRCA1. Tumor suppressor p53 is necessary for maintenance of cellular genetic integrity by moderating cell fate through DNA repair versus cell death. Malfunction or loss of p53 expression is associated with malignant cell growth and Li-Fraumeni syndrome. Like p53, BRCA1 is directly involved in DNA repair, although it is specifically recognized as a genetic determinant of early onset breast cancer and predisposition to cancers of the ovary, colon, prostate gland and fallopian tubes.

## REFERENCES

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## CHROMOSOMAL LOCATION

Genetic locus: RNASEK (human) mapping to 17p13.1; Rnasek (mouse) mapping to 11 B3.

## SOURCE

RNase K (E-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of RNase K of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-138586 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

RNase K (E-13) is recommended for detection of RNase K 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with other RNase family members.

RNase K (E-13) is also recommended for detection of RNase K in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for RNase K siRNA (h): sc-94097, RNase K siRNA (m): sc-152996, RNase K shRNA Plasmid (h): sc-94097-SH, RNase K shRNA Plasmid (m): sc-152996-SH, RNase K shRNA (h) Lentiviral Particles: sc-94097-V and RNase K shRNA (m) Lentiviral Particles: sc-152996-V.

Molecular Weight of RNase K: 11 kDa.

## 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.

## 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.