

# Romo1 (G-15): sc-85895

## BACKGROUND

Romo1 (reactive oxygen species modulator 1), whose alternative names include ROS modulator 1, Protein MGR2 homolog, MTGMP, bA353C18.2, C20orf52 or MGC111180, is a novel 79 amino acid single pass membrane protein which localizes to mitochondrial membranes. Romo1 is responsible for the production of reactive oxygen species (ROS), which is required for cell proliferation. Increased expression of Romo1 can cause premature senescence via ROS production, and contributes to induction of DNA damage. Romo1 expression increases in aging cells and is upregulated in cancer cell lines. Romo1 expression can also be induced by the anticancer drug fluorouracil (5FU). In cancer cells, Romo1 increases ROS and adds oxidative stress to tumor cells, which can increase their malignancy. Two isoforms of Romo1 exist as a result of alternative splicing, and the gene encoding Romo1 maps to human chromosome 20q11.22.

## REFERENCES

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2. Hwang, I.T., Chung, Y.M., Kim, J.J., Chung, J.S., Kim, B.S., Kim, H.J., Kim, J.S. and Yoo, Y.D. 2007. Drug resistance to 5-FU linked to reactive oxygen species modulator 1. *Biochem. Biophys. Res. Commun.* 359: 304-310.
3. Fruehauf, J.P. and Meyskens, F.L. 2007. Reactive oxygen species: a breath of life or death? *Clin. Cancer Res.* 13: 789-794.
4. Na, A.R., Chung, Y.M., Lee, S.B., Park, S.H., Lee, M.S. and Yoo, Y.D. 2008. A critical role for Romo1-derived ROS in cell proliferation. *Biochem. Biophys. Res. Commun.* 369: 672-678.
5. Chung, Y.M., Lee, S.B., Kim, H.J., Park, S.H., Kim, J.J., Chung, J.S. and Yoo, Y.D. 2008. Replicative senescence induced by Romo1-derived reactive oxygen species. *J. Biol. Chem.* 283: 33763-33771.
6. Chung, J.S., Lee, S.B., Park, S.H., Kang, S.T., Na, A.R., Chang, T.S., Kim, H.J. and Yoo, Y.D. 2009. Mitochondrial reactive oxygen species originating from Romo1 exert an important role in normal cell cycle progression by regulating p27<sup>Kip1</sup> expression. *Free Radic. Res.* 43: 729-737.

## CHROMOSOMAL LOCATION

Genetic locus: ROMO1 (human) mapping to 20q11.22; Romo1 (mouse) mapping to 2 H1.

## SOURCE

Romo1 (G-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Romo1 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-85895 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

Romo1 (G-15) is recommended for detection of Romo1 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).

Romo1 (G-15) is also recommended for detection of Romo1 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Romo1 siRNA (h): sc-76423, Romo1 siRNA (m): sc-153061, Romo1 shRNA Plasmid (h): sc-76423-SH, Romo1 shRNA Plasmid (m): sc-153061-SH, Romo1 shRNA (h) Lentiviral Particles: sc-76423-V and Romo1 shRNA (m) Lentiviral Particles: sc-153061-V.

Molecular Weight of Romo1: 8 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.