

# matrin-3 (G-20): sc-55724

## BACKGROUND

matrin-3 is a nuclear matrix protein containing one matrin-type zinc finger and two RRM (RNA recognition motif) domains. matrin-3 plays a role in transcription and may interact with other nuclear matrix proteins to form the internal fibrogranular network. In association with the PSF-p54/NRB heteromer, matrin-3 may play a role in the nuclear retention of defective RNAs. As the main substrate for PKA-mediated phosphorylation, matrin-3 may serve as a rapid way of transferring information from synapses containing NMDA receptors to neuronal nuclei under physiological conditions. Also, the phosphorylation of matrin-3 may contribute to neuronal death under pathological conditions. It is likely that matrin-3 activity is regulated by calcium-dependent interaction with CaM I and also by caspase induced cleavage.

## REFERENCES

1. Belgrader, P., et al. 1991. Molecular cloning of matrin-3. A 125-kilodalton protein of the nuclear matrix contains an extensive acidic domain. *J. Biol. Chem.* 266: 9893-9899.
2. Matsushima, Y., et al. 1998. Cloning and genomic mapping of the mouse matrin-3 gene and its pseudogenes. *Cytogenet. Cell Genet.* 81: 194-198.
3. Czarny-Ratajczak, M., et al. 2001. A mutation in COL9A1 causes multiple epiphyseal dysplasia: further evidence for locus heterogeneity. *Am. J. Hum. Genet.* 69: 969-980.
4. Giordano, G., et al. 2005. Activation of NMDA receptors induces protein kinase A-mediated phosphorylation and degradation of matrin-3. Blocking these effects prevents NMDA-induced neuronal death. *J. Neurochem.* 94: 808-818.
5. De Angelis, P.M., et al. 2006. Cellular response to 5-fluorouracil (5-FU) in 5-FU-resistant colon cancer cell lines during treatment and recovery. *Mol. Cancer* 5: 20.
6. Yu, L.R., et al. 2007. Improved titanium dioxide enrichment of phosphopeptides from HeLa cells and high confident phosphopeptide identification by cross-validation of MS/MS and MS/MS/MS spectra. *J. Proteome Res.* 6: 4150-4162.

## CHROMOSOMAL LOCATION

Genetic locus: MATR3 (human) mapping to 5q31.2; Matr3 (mouse) mapping to 18 B2.

## SOURCE

matrin-3 (G-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of matrin-3 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-55724 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

matrin-3 (G-20) is recommended for detection of matrin-3 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).

matrin-3 (G-20) is also recommended for detection of matrin-3 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for matrin-3 siRNA (h): sc-62604, matrin-3 siRNA (m): sc-62605, matrin-3 shRNA Plasmid (h): sc-62604-SH, matrin-3 shRNA Plasmid (m): sc-62605-SH, matrin-3 shRNA (h) Lentiviral Particles: sc-62604-V and matrin-3 shRNA (m) Lentiviral Particles: sc-62605-V.

Molecular Weight of matrin-3: 95 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or K-562 whole cell lysate: sc-2203.

## 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.

## SELECT PRODUCT CITATIONS

1. Ferrando, I.M., et al. 2012. Identification of targets of c-Src tyrosine kinase by chemical complementation and phosphoproteomics. *Mol. Cell. Proteomics* 11: 355-369.

## 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.



Try **matrin-3 (2539C3a): sc-81318**, our highly recommended monoclonal alternative to matrin-3 (G-20).