

# megsin (N-18): sc-79260

## BACKGROUND

Megsin, also designated SerpinB7 and TP55, is a 380 amino acid cytoplasmic protein that is predominantly expressed in mesangial cells, which play an important role in maintaining glomerular structure and function. As a member of the serpin family, megsin is a serine protease inhibitor which potentially inactivate MMP-2, MMP-9 and plasmin, proteins that are notably responsible for degradation of extracellular matrix. Overexpression of megsin results in an increase in number of mesangial cells and therefore a progressive mesangial matrix expansion, which is accompanied by immune complex deposition. This finding suggests that megsin significantly influences the role of mesangial cells in renal structure and is likely implicated in a variety of nephropathies.

## REFERENCES

- Miyata, T., Inagi, R., Nangaku, M., Imasawa, T., Sato, M., Izuhara, Y., Suzuki, D., Yoshino, A., Onogi, H., Kimura, M., Sugiyama, S. and Kurokawa, K. 2002. Overexpression of the serpin megsin induces progressive mesangial cell proliferation and expansion. *J. Clin. Invest.* 109: 585-593.
- Xia, Y.F., Huang, S., Li, X., Yang, N., Huang, J., Xue, C., Zhang, M., Leung, J.C., Lam, M.F. and Li, J. 2006. A family-based association study of megsin A23167G polymorphism with susceptibility and progression of IgA nephropathy in a Chinese population. *Clin. Nephrol.* 65: 153-159.
- Inagi, R., Yamamoto, Y., Nangaku, M., Usuda, N., Okamoto, H., Kurokawa, K., van Ypersele de Strihou, C., Yamamoto, H. and Miyata, T. 2006. A severe diabetic nephropathy model with early development of nodule-like lesions induced by megsin overexpression in RAGE/iNOS transgenic mice. *Diabetes* 55: 356-366.
- Xia, Y., Li, Y., Du, Y., Yang, N., Li, C., Leung, J.C., Lam, M.F., Huang, W., Chen, S., Maxwell, P.H., Lai, K.N. and Wang, Y. 2006. Association of megsin 2093C-2180T haplotype at the 3' untranslated region with disease severity and progression of IgA nephropathy. *Nephrol. Dial. Transplant.* 21: 1570-1574.
- Miyata, T., Li, M., Yu, X. and Hirayama, N. 2007. Megsin gene: its genomic analysis, pathobiological functions, and therapeutic perspectives. *Curr. Genomics* 8: 203-208.
- Lim, C.S., Kim, S.M., Oh, Y.K., Joo, K.W., Kim, Y.S., Han, J.S. and Kim, S. 2008. Megsin 2093T-2180C haplotype at the 3' untranslated region is associated with poor renal survival in Korean IgA nephropathy patients. *Clin. Nephrol.* 70: 101-109.
- Maixnerová, D., Merta, M., Reiterová, J., Stekrová, J., Rysavá, R., Viklický, O., Obeidová, H. and Tesar, V. 2008. The influence of two megsin polymorphisms on the progression of IgA nephropathy. *Folia Biol.* 54: 40-45.
- Ohtomo, S., Nangaku, M., Izuhara, Y., Yamada, N., Dan, T., Mori, T., Ito, S., van Ypersele de Strihou, C. and Miyata, T. 2008. The role of megsin, a serine protease inhibitor, in diabetic mesangial matrix accumulation. *Kidney Int.* 74: 768-774.
- Online Mendelian Inheritance in Man, OMIM™. 2008. Johns Hopkins University, Baltimore, MD. MIM Number: 603357. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

## CHROMOSOMAL LOCATION

Genetic locus: SERPINB7 (human) mapping to 18q21.33.

## SOURCE

megsin (N-18) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the N-terminus of megsin of human origin.

## PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-79260 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

megsin (N-18) is recommended for detection of megsin of 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).

megsin (N-18) is also recommended for detection of megsin in additional species, including equine and porcine.

Suitable for use as control antibody for megsin siRNA (h): sc-75768, megsin shRNA Plasmid (h): sc-75768-SH and megsin shRNA (h) Lentiviral Particles: sc-75768-V.

Molecular Weight of megsin: 43 kDa.

## 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) 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.

## 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 **megsin (H-10): sc-515694**, our highly recommended monoclonal alternative to megsin (N-18).