

# MagT1 (E-13): sc-161814

## BACKGROUND

Magnesium, a cofactor for ATP, plays a vital role in metabolic and biochemical processes. The transport of magnesium across membranes is essential for maintaining magnesium homeostasis and is fundamental to vertebrate metabolism. MagT1 (magnesium transporter 1), also known as IAP, MRX95 or OST3B, is a 335 amino acid multi-pass membrane protein that localizes to the endoplasmic reticulum. Expressed in placenta, liver, muscle and pancreas, MagT1 participates in N-glycosylation through its association with N-oligosaccharyl transferase and may be involved in Mg<sup>2+</sup> transport in epithelial cells. Belonging to the OST3/OST6 family, MagT1 is critical for cellular magnesium uptake and vertebrate embryonic development. Defects in the gene encoding MagT1 are associated with mental retardation X-linked type 95, which is characterized by physical, neurological and/or psychiatric manifestations and intellectual deficiency.

## REFERENCES

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- Schmitz, C., et al. 2007. Molecular components of vertebrate Mg<sup>2+</sup>-homeostasis regulation. *Magnes. Res.* 20: 6-18.
- Sontia, B., et al. 2007. Magnesium transport in hypertension. *Pathophysiology* 14: 205-211.
- Molinari, F., et al. 2008. Oligosaccharyltransferase-subunit mutations in nonsyndromic mental retardation. *Am. J. Hum. Genet.* 82: 1150-1157.
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- Zhou, H., et al. 2009. Mammalian MagT1 and TUSC3 are required for cellular magnesium uptake and vertebrate embryonic development. *Proc. Natl. Acad. Sci. USA* 106: 15750-15755.
- Quamme, G.A. 2010. Molecular identification of ancient and modern mammalian magnesium transporters. *Am. J. Physiol., Cell Physiol.* 298: C407-C429.

## CHROMOSOMAL LOCATION

Genetic locus: MAGT1 (human) mapping to Xq21.1; Magt1 (mouse) mapping to X D.

## SOURCE

MagT1 (E-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of MagT1 of human origin.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## 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-161814 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

MagT1 (E-13) is recommended for detection of MagT1 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).

MagT1 (E-13) is also recommended for detection of MagT1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for MagT1 siRNA (h): sc-91352, MagT1 siRNA (m): sc-149231, MagT1 shRNA Plasmid (h): sc-91352-SH, MagT1 shRNA Plasmid (m): sc-149231-SH, MagT1 shRNA (h) Lentiviral Particles: sc-91352-V and MagT1 shRNA (m) Lentiviral Particles: sc-149231-V.

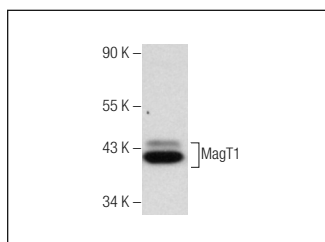
Molecular Weight of MagT1: 35-38 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206.

## 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



MagT1 (E-13): sc-161814. Western blot analysis of MagT1 expression in MCF7 whole cell lysate.

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.