

BIGM103 (P-14): sc-133415

BACKGROUND

BIGM103 (BCG-induced integral membrane protein in monocyte clone 103 protein), also known as zinc transporter ZIP8 or solute carrier family 39 member 8, is a 460 amino acid protein belonging to the ZIP transporter family. While other members of the protein family are constitutively expressed, BIGM103 is induced by inflammatory cytokines, such as TNF α . Upon induction, BIGM103 translocates to the plasma membrane and mitochondria, where it functions in the cellular import of zinc. As zinc is an essential cytoprotectant involved in the host response to inflammatory stress, BIGM103, too, functions as a cytoprotectant and plays a critical role in cell survival. Additionally, BIGM103 is thought to be the primary transporter of cadmium. BIGM103 is expressed in thymus, placenta, lung and liver, with highest levels in pancreas. Two isoforms of BIGM103 exist as a result of alternative splicing events.

REFERENCES

1. Begum, N.A., et al. 2002. *Mycobacterium bovis* BCG cell wall and lipopolysaccharide induce a novel gene, BIGM103, encoding a 7-TM protein: identification of a new protein family having Zn-transporter and Zn-metalloprotease signatures. *Genomics* 80: 630-645.
2. Taylor, K.M. and Nicholson, R.I. 2003. The LZT proteins; the LIV-1 subfamily of zinc transporters. *Biochim. Biophys. Acta* 1611: 16-30.
3. Dalton, T.P., et al. 2005. Identification of mouse SLC39A8 as the transporter responsible for cadmium-induced toxicity in the testis. *Proc. Natl. Acad. Sci. USA* 102: 3401-3406.
4. Online Mendelian Inheritance in Man, OMIM™. 2005. Johns Hopkins University, Baltimore, MD. MIM Number: 608732. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
5. He, L., et al. 2006. ZIP8, member of the solute-carrier-39 (SLC39) metal-transporter family: characterization of transporter properties. *Mol. Pharmacol.* 70: 171-180.

CHROMOSOMAL LOCATION

Genetic locus: SLC39A8 (human) mapping to 4q24; Slc39a8 (mouse) mapping to 3 G3.

SOURCE

BIGM103 (P-14) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an extracellular domain of BIGM103 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-133415 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

BIGM103 (P-14) is recommended for detection of BIGM103 isoforms 1 and 2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:50-1:500), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:25, dilution range 1:25-1:250) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

BIGM103 (P-14) is also recommended for detection of BIGM103 isoforms 1 and 2 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for BIGM103 siRNA (h): sc-89083, BIGM103 siRNA (m): sc-141703, BIGM103 shRNA Plasmid (h): sc-89083-SH, BIGM103 shRNA Plasmid (m): sc-141703-SH, BIGM103 shRNA (h) Lentiviral Particles: sc-89083-V and BIGM103 shRNA (m) Lentiviral Particles: sc-141703-V.

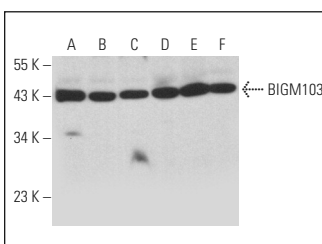
Molecular Weight of BIGM103: 50 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, SHP-77 whole cell lysate: sc-364258 or SP2/0 whole cell lysate: sc-364795.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



BIGM103 (P-14): sc-133415. Western blot analysis of BIGM103 expression in RAW 264.7 (A), NCI-H292 (B), SHP-77 (C), SP2/0 (D), NIH/3T3 (E) and HeLa (F) whole cell lysates.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.