

# MRGD (S-14): sc-138441

## BACKGROUND

Mas-related G protein-coupled receptors are sensory neuron-specific G protein-coupled receptors that are usually involved in the development and function of nociceptive neurons and may also regulate the sensation or modulation of pain. MRGD (MAS-related GPR, member D), also known as MRG-PRD or TGR7, is a 321 amino acid multi-pass membrane protein that belongs to the G protein-coupled receptor 1 family and the Mas subfamily. MRGD is suggested to function specifically as a receptor for  $\beta$ -alanine, a naturally occurring  $\beta$  amino acid.  $\beta$ -alanine induces  $Ca^{2+}$  influx and decreases forskolin-stimulated cAMP production in cells expressing MRGD. Neurons of outer epidermis that express MRGD act as nociceptors in which they respond indirectly to external stimuli by detecting ATP release in the skin. MRGD is encoded by a gene located on human chromosome 11q13.3.

## REFERENCES

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- Cavanaugh, D.J., et al. 2009. Distinct subsets of unmyelinated primary sensory fibers mediate behavioral responses to noxious thermal and mechanical stimuli. *Proc. Natl. Acad. Sci. USA* 106: 9075-9080.
- Jimenez-Andrade, J.M., et al. 2010. A phenotypically restricted set of primary afferent nerve fibers innervate the bone versus skin: therapeutic opportunity for treating skeletal pain. *Bone* 46: 306-313.
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## CHROMOSOMAL LOCATION

Genetic locus: MRGPRD (human) mapping to 11q13.3.

## SOURCE

MRGD (S-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a C-terminal cytoplasmic domain of MRGD of human origin.

## RESEARCH USE

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

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-138441 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

MRGD (S-14) is recommended for detection of MRGD of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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).

Suitable for use as control antibody for MRGD siRNA (h): sc-96591, MRGD shRNA Plasmid (h): sc-96591-SH and MRGD shRNA (h) Lentiviral Particles: sc-96591-V.

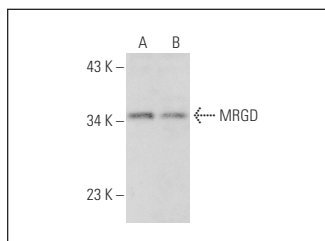
Molecular Weight of MRGD: 38 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204 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.

## DATA



MRGD (S-14): sc-138441. Western blot analysis of MRGD expression in Jurkat (A) and K-562 (B) whole cell lysates.

## STORAGE

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