SANTA CRUZ BIOTECHNOLOGY, INC.

# EMP-3 (W-14): sc-240348

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*The Power to Question*

## BACKGROUND

EMP-3 (epithelial membrane protein 3), also known as YMP, is a 163 amino acid multi-pass membrane protein that contains 2 N-linked glycosylation sites and 4 transmembrane domains. Expressed ubiquitously with highest expression in peripheral blood leukocytes, EMP-3 is a myelin-related protein that is thought to be involved in cell-cell interactions and cell proliferation. The gene encoding EMP-2 is implicated as a possible tumor suppressor that silences CpG promotor action, thereby inhibiting the growth of neuroblastomas and gliomas. Overexpression of EMP-3, however, may be associated with the development of oligodendroglial tumors (tumors that develop on the myelin producing cells of the central nervous system). Its ability to both repress and induce tumor formation suggests that normal amounts of EMP-3 keep tumor activity low, while increased EMP-3 expression may play a role in carcinogenesis.

## REFERENCES


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2. Ben-Porath, I. and Benvenisty, N. 1996. Characterization of a tumor-associated gene, a member of a novel family of genes encoding membrane glycoproteins. Gene 183: 69-75.
3. Liehr, T., et al. 1999. Regional localization of the human epithelial membrane protein genes 1, 2, and 3 (EMP1, EMP2, EMP3) to 12p12.3, 16p13.2, and 19q13.3. Genomics 58: 106-108.
4. Luedtke, B., et al. 2003. A single nucleotide polymorphism in the EMP-3 gene defines the H4 minor histocompatibility antigen. Immunogenetics 55: 284-295.
5. Knuepfer, E., et al. 2005. Trafficking determinants for PfEMP3 export and assembly under the *Plasmodium falciparum*-infected red blood cell membrane. Mol. Microbiol. 58: 1039-1053.
6. Nielsen, K., et al. 2005. Altered expression of CLC, DSG3, EMP-3, S100A2, and SLPI in corneal epithelium from keratoconus patients. Cornea 24: 661-668.
7. Alaminos, M., et al. 2005. EMP-3, a myelin-related gene located in the critical 19q13.3 region, is epigenetically silenced and exhibits features of a candidate tumor suppressor in glioma and neuroblastoma. Cancer Res. 65: 2565-2571.
8. Kunitz, A., et al. 2007. DNA hypermethylation and aberrant expression of the EMP3 gene at 19q13.3 in human gliomas. Brain Pathol. 17: 363-370.


## CHROMOSOMAL LOCATION

Genetic locus: EMP3 (human) mapping to 19q13.33; Emp3 (mouse) mapping to 7 B4.

## SOURCE

EMP-3 (W-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of EMP-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-240348 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

EMP-3 (W-14) is recommended for detection of EMP-3 of mouse, rat and 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); non cross-reactive with EMP-1 or EMP-2.

EMP-3 (W-14) is also recommended for detection of EMP-3 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for EMP-3 siRNA (h): sc-97634, EMP-3 siRNA (m): sc-144648, EMP-3 shRNA Plasmid (h): sc-97634-SH, EMP-3 shRNA Plasmid (m): sc-144648-SH, EMP-3 shRNA (h) Lentiviral Particles: sc-97634-V and EMP-3 shRNA (m) Lentiviral Particles: sc-144648-V.

Molecular Weight of EMP-3: 18 kDa.

Positive Controls: C32 whole cell lysate: sc-2205.

## 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) 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.

## 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.

## PROTOCOLS

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