

# Mx1/2/3 (D-14): sc-34128

## BACKGROUND

The Dynamin family of microtubule-associated proteins function as GTPases that are involved in microtubule bundling and endocytosis. In mice, Mx2 (myxovirus resistance protein two) and Mx1 (myxovirus resistance protein one) are members of the Dynamin family that are involved in the immune response to viral infections. Localized to the cytoplasm, Mx2 contains one GED domain and is expressed in response to viral infection or treatment by IFN- $\alpha$ /IFN- $\beta$ . Once expression is induced, Mx2 accumulates in the cytoplasm and inhibits the replication of vesicular stomatitis virus (VSV), thereby conferring resistance to VSV infection. Unlike Mx2, Mx1 is localized to the nucleus where, upon induction by IFN- $\alpha$ /IFN- $\beta$ , it provides selective resistance to infection by the highly lethal H5N1 influenza virus. In humans, MxA and MxB function in a similar manner to Mx1 and Mx2, conferring resistance to specific target viruses. Mx3 is a rat-specific member of the myxovirus resistance protein family.

## REFERENCES

- Lindenmann, J. 1964. Inheritance of resistance to influenza virus in mice. *Proc. Soc. Exp. Biol. Med.* 116: 506-509.
- Staheli, P., Haller, O., Boll, W., Lindenmann, J. and Weissmann, C. 1986. Mx protein: constitutive expression in 3T3 cells transformed with cloned Mx cDNA confers selective resistance to influenza virus. *Cell* 44: 147-158.
- Hug, H., Costas, M., Staheli, P., Aebi, M. and Weissmann, C. 1988. Organization of the murine Mx gene and characterization of its interferon- and virus-inducible promoter. *Mol. Cell. Biol.* 8: 3065-3079.
- Staheli, P. and Sutcliffe, J.G. 1988. Identification of a second interferon-regulated murine Mx gene. *Mol. Cell. Biol.* 8: 4524-4528.
- Zürcher, T., Pavlovic, J. and Staheli, P. 1992. Mouse Mx2 protein inhibits vesicular stomatitis virus but not influenza virus. *Virology* 187: 796-800.

## CHROMOSOMAL LOCATION

Genetic locus: MX1/MX2 (human) mapping to 21q22.3; Mx1/Mx2 (mouse) mapping to 16 C4.

## SOURCE

Mx1/2/3 (D-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Mx1 of human origin.

## 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-34128 P, (100  $\mu$ 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

Mx1/2/3 (D-14) is recommended for detection of Mx1 and Mx2 of human and mouse origin, and Mx1, Mx2 and Mx3 of rat 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).

Mx1/2/3 (D-14) is also recommended for detection of Mx1 and Mx2 in additional species, including equine and bovine.

Molecular Weight of Mx1: 72 kDa.

Molecular Weight of Mx2: 73 kDa.

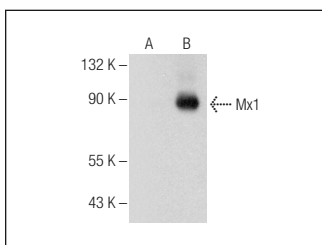
Molecular Weight of Mx3: 75 kDa.

Positive Controls: Mx1 (h): 293T Lysate: sc-115203.

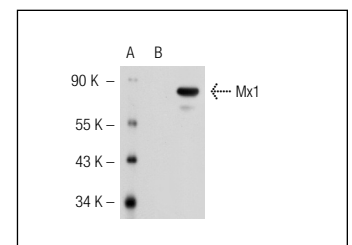
## RECOMMENDED SECONDARY REAGENTS

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



Mx1/2/3 (D-14): sc-34128. Western blot analysis of Mx1 expression in non-transfected: sc-117752 (A) and human Mx1 transfected: sc-110081 (B) 293T whole cell lysates.



Mx1/2/3 (D-14): sc-34128. Western blot analysis of Mx1 expression in non-transfected: sc-117752 (A) and human Mx1 transfected: sc-115203 (B) 293T whole cell lysates.

## RESEARCH USE

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



Try **Mx1/2/3 (C-1): sc-166412** or **Mx1 (E-5): sc-271024**, our highly recommended monoclonal alternatives to Mx1/2/3 (D-14). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **Mx1/2/3 (C-1): sc-166412**.