

# Mx1 (E-8): sc-398564

## 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 2) and Mx1 (myxovirus resistance protein 1) 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., et al. 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., et al. 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.

## CHROMOSOMAL LOCATION

Genetic locus: MX1 (human) mapping to 21q22.3.

## SOURCE

Mx1 (E-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 422-464 within an internal region of Mx1 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG $_1$  kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-398564 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## 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.

## APPLICATIONS

Mx1 (E-8) is recommended for detection of Mx1 of human origin by Western Blotting (starting dilution 1:100, 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 Mx1 siRNA (h): sc-45260, Mx1 shRNA Plasmid (h): sc-45260-SH and Mx1 shRNA (h) Lentiviral Particles: sc-45260-V.

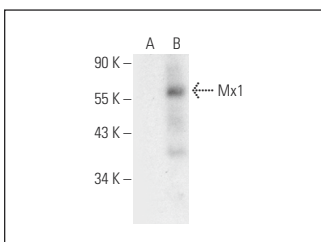
Molecular Weight of Mx1: 72 kDa.

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

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



Mx1 (E-8): sc-398564. Western blot analysis of Mx1 expression in non-transfected: sc-117752 (A) and human Mx1 transfected: sc-115203 (B) 293T whole cell lysates.

## SELECT PRODUCT CITATIONS

- Wang, P., et al. 2019. IL-36 promotes anti-viral immunity by boosting sensitivity to IFN- $\alpha$ / $\beta$  in IRF1 dependent and independent manners. *Nat. Commun.* 10: 4700.
- Shang, J., et al. 2021. Sox4 represses host innate immunity to facilitate pathogen infection by hijacking the TLR signaling networks. *Virulence* 12: 704-722.



See **Mx1/2/3 (C-1): sc-166412** for Mx1/2/3 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.