

# Mx1 (E-5): sc-271024

## 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

1. Lindenmann, J. 1964. Inheritance of resistance to influenza virus in mice. *Proc. Soc. Exp. Biol. Med.* 116: 506-509.
2. Staeheli, 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.
3. 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.
4. Staeheli, 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; Mx1 (mouse) mapping to 16 C4.

## SOURCE

Mx1 (E-5) is a mouse monoclonal antibody raised against amino acids 171-455 mapping 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.

Mx1 (E-5) is available conjugated to agarose (sc-271024 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271024 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271024 PE), fluorescein (sc-271024 FITC), Alexa Fluor<sup>®</sup> 488 (sc-271024 AF488), Alexa Fluor<sup>®</sup> 546 (sc-271024 AF546), Alexa Fluor<sup>®</sup> 594 (sc-271024 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-271024 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-271024 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-271024 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

## RESEARCH USE

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

## APPLICATIONS

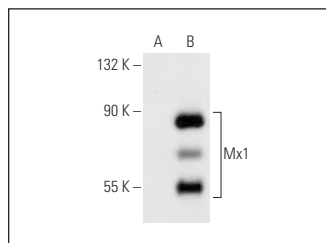
Mx1 (E-5) is recommended for detection of Mx1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution 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 siRNA (m): sc-108020, Mx1 shRNA Plasmid (h): sc-45260-SH, Mx1 shRNA Plasmid (m): sc-108020-SH, Mx1 shRNA (h) Lentiviral Particles: sc-45260-V and Mx1 shRNA (m) Lentiviral Particles: sc-108020-V.

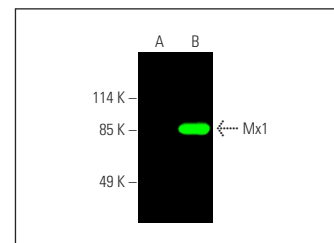
Molecular Weight of Mx1/2/3: 72/73/75 kDa.

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

## DATA



Mx1 (E-5): sc-271024. Western blot analysis of Mx1 expression in non-transfected: sc-117752 (A) and human Mx1 transfected: sc-115203 (B) 293T whole cell lysates.



Mx1 (E-5): sc-271024. Near-infrared western blot analysis of Mx1 expression in non-transfected: sc-117752 (A) and human Mx1 transfected: sc-115203 (B) 293T whole cell lysates. Blocked with UltraCruz<sup>®</sup> Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 680: sc-516180.

## SELECT PRODUCT CITATIONS

1. Espinet, E., et al. 2021. Aggressive PDACs show hypomethylation of repetitive elements and the execution of an intrinsic IFN program linked to a ductal cell of origin. *Cancer Discov.* 11: 638-659.
2. Bardou, M., et al. 2021. Quorum sensing governs collective dendritic cell activation *in vivo*. *EMBO J.* 40: e107176.
3. Wang, Y., et al. 2022. MAGI1 inhibits interferon signaling to promote influenza A infection. *Front. Cardiovasc. Med.* 9: 791143.
4. Jiyarom, B., et al. 2023. RIG-I and MDA5 are modulated by bone morphogenetic protein (BMP6) and are essential for restricting Zika virus infection in human Sertoli cells. *Front. Microbiol.* 13: 1062499.
5. Chau, K.M., et al. 2023. TNIK regulation of interferon signaling and endothelial cell response to virus infection. *Front. Cardiovasc. Med.* 10: 1213428.

## STORAGE

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

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