

Anti-human Neuropilin-1 b1b2 [clone 1A4; mAb1]

Catalogue number: 160469

Sub-type:

Images:

Contributor

Inventor:

Institute: University of Tartu

Images:

Tool details

***FOR RESEARCH USE ONLY**

Name: Anti-human Neuropilin-1 b1b2 [clone 1A4; mAb1]

Alternate name: 1A4, mAB1 (mAB1 in studies published in Science)

Class: Monoclonal

Conjugate: Unconjugated

Description: Monoclonal antibody raised against human NRP-1 b1b2 domain, clone 1A4 (mAB1 in studies published in Science). Partially blocking binding of CendR peptides to b1 domain of NRP-1. In recent years the relevance of CendR pathway for cellular uptake of biological nanoparticles - has been demonstrated in several independent studies. A direct role of Neuropilin (NRP) in virus entry has been demonstrated for three viruses, the retrovirus Human T-cell lymphotropic virus type 1 (HTLV-1) and the herpes viruses EBV and CMV5-8. In the case of CMV, NRP-2 acts as a receptor only for specific cell types, while in fibroblasts the virus uses a different molecule for entry. Viruses that display CendR peptides on their surface are expected to bind a specific CendR binding pocket on the extracellular domain of NRP. Ample evidence obtained with synthetic and phage-displayed CendR peptides shows that they bind to conserved binding pocket in b1 domain of NRP-1. The inventors have developed a monoclonal antibody that specifically interacts with the CendR binding pocket of the b1 domain of Neuropilin-1 and blocks binding of CendR peptides. This monoclonal antibody has potential applications in the research of SARS-CoV2 in that the antibody is capable to reduce/block the internalisation of SARS-CoV2 into cells, thus to stop viral replication.

Purpose:

Parental cell:

Organism:

Tissue:

Model:

Gender:

Isotype:

Reactivity: Human

Selectivity:

Host: Mouse

Immunogen: See Xbio/UOT/V/b1b2wt and Xbio/UOT/V/b1b2tm

Immunogen UNIPROT ID:

Sequence:

Growth properties:

Production details:

Formulation:

Recommended controls:

Bacterial resistance:

Selectable markers:

Additional notes:

Target details

Target: human Neuropilin-1 b1b2 domain

Target alternate names:

Target background: Monoclonal antibody raised against human NRP-1 b1b2 domain, clone 1A4 (mAB1 in studies published in Science). Partially blocking binding of CendR peptides to b1 domain of NRP-1. In recent years the relevance of CendR pathway for cellular uptake of biological nanoparticles & viruses - has been demonstrated in several independent studies. A direct role of Neuropilin (NRP) in virus entry has been demonstrated for three viruses, the retrovirus Human T-cell lymphotropic virus type 1 (HTLV-1) and the herpes viruses EBV and CMV5-8. In the case of CMV, NRP-2 acts as a receptor only for specific cell types, while in fibroblasts the virus uses a different molecule for entry. Viruses that display CendR peptides on their surface are expected to bind a specific CendR binding pocket on the extracellular domain of NRP. Ample evidence obtained with synthetic and phage-displayed CendR peptides shows that they bind to conserved binding pocket in b1 domain of NRP-1. The inventors have developed a monoclonal antibody that specifically interacts with the CendR binding pocket of the b1 domain of Neuropilin-1 and blocks binding of CendR peptides. This monoclonal antibody has potential applications in the research of SARS-CoV2 in that the antibody is capable to reduce/block the internalisation of SARS-CoV2 into cells, thus to stop viral replication.

Molecular weight:

Ic50:

Applications

Application: IHC ; IF ; WB

Application notes:

Handling

Format: Liquid

Concentration:

Passage number:

Growth medium:

Temperature:

Atmosphere:

Volume:

Storage medium:

Storage buffer:

Storage conditions:

Shipping conditions: Shipping at 4° C

Related tools

Related tools:

References

References: Canturi-Castelvetri et al., 2020doi:10.1101/2020.06.07.137802 ; Daly et al., 2020doi:10.1101/2020.06.05.134114