

# PRODUCT INFORMATION



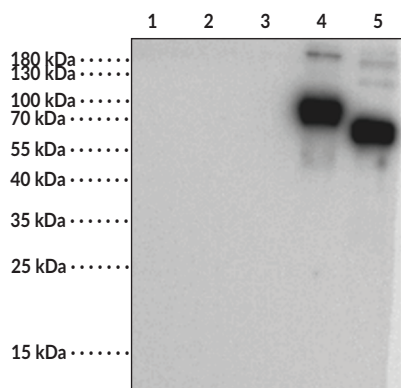
## Influenza B HA Rabbit Monoclonal Antibody

Item No. 38077

### Overview and Properties

<b>Contents:</b>	This vial contains 50 or 100 µl of protein A-affinity purified monoclonal antibody.
<b>Synonym:</b>	Influenza B Hemagglutinin
<b>Immunogen:</b>	Recombinant influenza B virus HA
<b>Cross Reactivity:</b>	See page 3
<b>Form:</b>	Liquid
<b>Storage:</b>	-80°C (as supplied)
<b>Stability:</b>	≥1 year
<b>Storage Buffer:</b>	0.2 µm filtered solution in PBS
<b>Clone:</b>	004
<b>Host:</b>	Rabbit
<b>Isotype:</b>	IgG
<b>Applications:</b>	ELISA and Western blot (WB); the recommended starting dilution is 1:5,000-1:10,000 for ELISA and 1:2,000-1:20,000 for WB. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

### Images



**Lane 1:** H3N2 (A/Darwin/9/2021) HA Protein (10 ng)

**Lane 2:** H3N2 (A/Darwin/9/2021) HA Protein (10 ng)

**Lane 3:** H3N2 (A/Darwin/6/2021) HA Protein (10 ng)

**Lane 4:** Influenza B (B/Austria/1359417/2021) (Victoria lineage) HA Protein (10 ng)

**Lane 5:** Influenza B (B/Austria/1359417/2021) (Victoria lineage) HA Protein (10 ng)

WB of Influenza B HA Rabbit Monoclonal Antibody at 1:1,000 dilution.

**WARNING**  
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

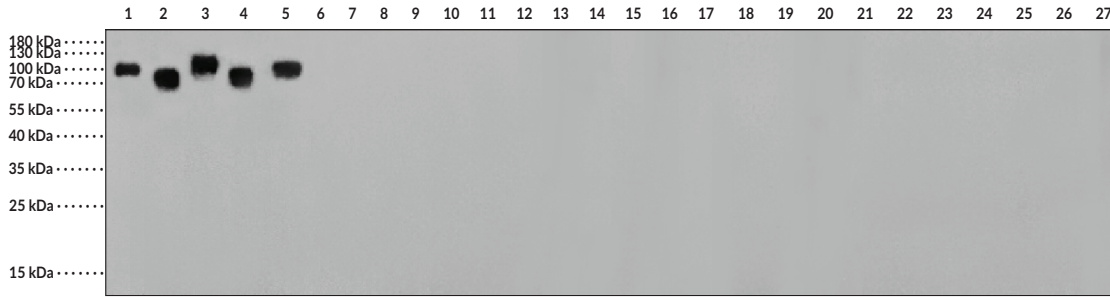
**SAFETY DATA**  
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

**WARRANTY AND LIMITATION OF REMEDY**  
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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**CAYMAN CHEMICAL**  
1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA  
PHONE: [800] 364-9897  
[734] 971-3335  
FAX: [734] 971-3640  
CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM

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Lane 1: Influenza B (B/Florida/4/2006) HA (10 ng)  
Lane 2: Influenza B (B/Brisbane/60/2008) HA (10 ng)  
Lane 3: Influenza B (B/Colorado/06/2017) HA (10 ng)  
Lane 4: Influenza B (B/PHUKET/3073/2013) HA (10 ng)  
Lane 5: Influenza B (B/Washington/02/2019) (10 ng)  
Lane 6: H1N1 (A/Brisbane/02/2018) HA (10 ng)  
Lane 7: H1N1 (A/California/04/2009) HA (10 ng)  
Lane 8: H1N1 (A/California/07/2009) HA (10 ng)  
Lane 9: H1N1 (A/Guangdong-Maonan/SWL1536/2019) HA (10 ng)  
Lane 10: H1N1 (A/Michigan/45/2015) HA (10 ng)  
Lane 11: H1N1 (A/Puerto Rico/8/1934) HA (10 ng)  
Lane 12: H1N1 (A/Victoria/4897/2022) HA Protein (10 ng)  
Lane 13: H3N2 H1N1 (A/Victoria/4897/2022) HA Trimer Protein (10 ng)  
Lane 14: H1N1 (A/Wisconsin/588/2019) / (A/Victoria/2570/2019) HA (10 ng)  
Lane 15: H1N1 (A/Wisconsin/67/2022) HA Protein (10 ng)  
Lane 16: H1N1 (A/Wisconsin/67/2022) HA Trimer Protein (10 ng)  
Lane 17: H3N2 (A/Brisbane/10/2007) HA (10 ng)  
Lane 18: H3N2 (A/Cambodia/e0826360/2020) HA (10 ng)  
Lane 19: H3N2 (A/Darwin/6/2021) HA Protein (10 ng)  
Lane 20: H3N2 H3N2 (A/Hong Kong/1/1968) HA (10 ng)  
Lane 21: H3N2 (A/Hong Kong/45/2019) HA (10 ng)  
Lane 22: H3N2 (A/Hong Kong/4801/2014) HA (10 ng)  
Lane 23: H3N2 (A/Kansas/14/2017) HA (10 ng)  
Lane 24: H3N2 (A/Singapore/INFIMH-16-0019/2016) HA (10 ng)  
Lane 25: H3N2 (A/Switzerland/9715293/2013) HA (10 ng)  
Lane 26: H3N2 (A/Hong Kong/2671/2019) HA (10 ng)  
Lane 27: H5N1 (A/Indonesia/5/2005) HA (10 ng)

WB of Influenza B HA Rabbit Monoclonal Antibody at 1:10,000 dilution.

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**Cross Reactivity:** (+) H3N2 (A/Hong Kong/2671/2019) HA  
Influenza B (B/Austria/1359417/2021)(Victoria lineage) HA Protein  
Influenza B (B/Austria/1359417/2021)(Victoria lineage) HA Protein  
Influenza B (B/Brisbane/60/2008) HA  
Influenza B (B/Colorado/06/2017) HA  
Influenza B (B/PHUKET/3073/2013) HA  
Influenza B (B/Washington/02/2019) HA

(-) H1N1 (A/Brisbane/02/2018) HA  
H1N1 (A/California/04/2009) HA  
H1N1 (A/Guangdong-Maonan/SWL1536/2019) / (A/Hawaii/70/2019) HA  
H1N1 (A/Michigan/45/2015) HA  
H1N1 (A/Puerto Rico/8/1934) HA  
H1N1 (A/Wisconsin/588/2019) / (A/Victoria/2570/2019) HA  
H3N2 (A/Brisbane/10/2007) HA  
H3N2 (A/Cambodia/e0826360/2020) HA  
H3N2 (A/Darwin/9/2021) HA Protein  
H3N2 (A/Darwin/9/2021) HA Protein  
H3N2 (A/Darwin/6/2021) HA Protein  
H3N2 (A/Hong Kong/45/2019) HA  
H3N2 (A/Hong Kong/4801/2014) HA  
H3N2 (A/Kansas/14/2017) HA  
H3N2 (A/Singapore/INFIMH-16-0019/2016) HA  
H3N2 (A/Switzerland/9715293/2013) HA

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## Description

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Influenza B HA is a type I membrane glycoprotein involved in receptor binding and virus-host cell fusion.<sup>1,2</sup> It is produced as a precursor protein, HA0, which is composed of a stalk and head domain and forms homotrimers on the viral surface.<sup>3,4</sup> The HA0 precursor is cleaved into subunits, HA1 and HA2, which are responsible for host cell surface receptor binding and endosomal membrane fusion, respectively, and this cleavage is required for endosomal fusion.<sup>4</sup> For influenza B and influenza A, which are low pathogenic influenza viruses, cleavage occurs *via* trypsin-like proteases, such as transmembrane serine protease 2 (TMPRSS2), which is essential for influenza A HA, but not influenza B HA, cleavage.<sup>2,5,6</sup> Cleaved influenza B HA binds to terminal  $\alpha$ 2,6-linked sialic acids on glycoproteins or glycolipids on the host cell surface *via* the receptor-binding domain in the HA1 subunit, which triggers endocytosis of the virus and trafficking of the vesicle into the endosome.<sup>3,7,8</sup> The low pH environment of the endosome triggers viral rearrangement into a prefusion conformation, and the HA2 subunit facilitates fusion with the endosomal membrane to release viral ribonucleoproteins into the cytosol where they are relocated to the nucleus for viral replication.<sup>3</sup> Cayman's Influenza B HA Rabbit Monoclonal Antibody can be used for ELISA and Western blot (WB) applications.

## References

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2. Sakai, K., Ami, Y., Nakajima, N., *et al.* TMPRSS2 independency for haemagglutinin cleavage *in vivo* differentiates influenza B virus from influenza A virus. *Sci. Rep.* **6**, 29430 (2016).
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