

# PRODUCT INFORMATION



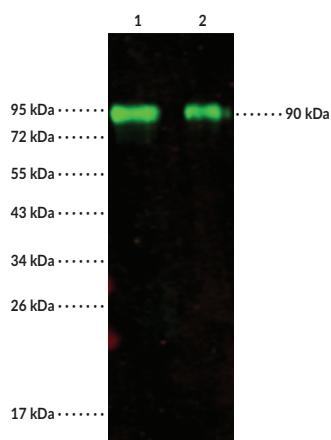
## Influenza A H1N1 HA Monoclonal Antibody (Clone 02)

Item No. 38104

### Overview and Properties

**Contents:** This vial contains 50 or 100 µl of protein A-affinity purified monoclonal antibody.  
**Synonym:** Influenza A H1N1 Hemagglutinin  
**Immunogen:** Recombinant influenza A H1N1 (A/California/07/2009) HA  
**Cross Reactivity:** (+) HA  
**Species Reactivity:** (+) Influenza A H1N1 (A/California/07/2009)  
**Molecular Weight:** ~90 kDa  
**Form:** Liquid  
**Storage:** -80°C (as supplied)  
**Stability:** ≥1 year  
**Storage Buffer:** 0.2 µm filtered solution in PBS  
**Clone:** 02  
**Host:** Mouse  
**Isotype:** IgG1  
**Applications:** Western blot (WB) (reducing conditions); the recommended starting dilution is 1:1,000-1:5,000. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

### Image



Lane 1: Influenza A H1N1 HA recombinant protein (30 ng)  
Lane 2: Influenza A H1N1 HA recombinant protein (10 ng)

WB of Influenza A H1N1 HA 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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## Description

Influenza A H1N1 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>1,3</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>1</sup> For influenza A and influenza B, 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>4-6</sup> Cleaved influenza A H1N1 HA binds to terminal  $\alpha$ 2,6- or  $\alpha$ 2,3-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 A H1N1 HA Monoclonal Antibody (Clone 02) can be used for Western blot (WB; reducing conditions). The antibody recognizes HA at approximately 90 kDa from the influenza A H1N1 A/California/07/2009 strain.

## References

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