Adenoviruses (Ads) are important human pathogens infecting a wide range of tissues, including the respiratory tract, the gastrointestinal tract and the conjunctiva. Adenovirus is associated with acute pneumoniae in children in developing countries which is a major cause of illness and death. Nonhuman Ad serotypes are ubiquitous in many vertebrate species and provide an alternate approach for the study of Ad pathogenesis. Mouse adenoviruses (MAds) are nonenveloped DNA viruses of the Mastadenovirus family. There are two strains of mouse adenovirus: Mouse adenovirus type 1 (MAV-1) and mouse adenovirus type 2 (MAV-2). MAV-1 first identified in 1960, is a well-characterized, nonhuman Ad that has been successfully used in vivo for pathogenesis studies and has also been designated as FL, MAV-1 and MAV-FL. MAV-1 produces a lethal disease in newborn or suckling mice characterized by infectious virus and viral lesions in multiple organs. MAV-1 is transmitted through contact with infected urine and MAV-2 also known as strain K87 is shed in feces; the virus is transmitted via the fecal-oral route.

MAV-1 has been more extensively studied than MAV-2. MAV-1 is similar to human adenovirus and other members of the adenovirus family in both genome and structure. The non-enveloped, double stranded DNA genome of MAV-1 is 30,944 bp, similar to the human adenoviruses, which range from 34,125 bp (Ad12) to 36,001 bp (Ad1). MAV-1 shares many open reading frames with Ad2 and Ad5. The early regions E1A, E1B, E2, E3, and E4 are the first regions transcribed and encode proteins involved in activating transcription of other viral regions and altering the cellular environment to promote viral production. The E1A proteins induce mitogenic activity in the host cell and stimulate expression of other viral genes. The E2 proteins mediate viral DNA replication, while E3 and E4 proteins alter host immune responses and cell signaling, respectively. Activation of the major late promoter (MLP) following the start of virus DNA synthesis allows expression of the late genes encoding primarily virion structural proteins. The late regions (L1–L5) are transcribed from an alternatively spliced transcript. MAV-1 E3 has no significant homology between MAV-1 late genes encoding primarily virion structural proteins. The late regions (L1–L5) are transcribed from an alternatively spliced transcript.

Diagnosis of MAV infections in mice or rats can be performed by MFI/ELISA and IFA. MAV infections can be confirmed by the detection of circulating antibodies. Virus can be amplified from infected tissues by PCR or cultivated in permissive cell lines. The capability of MAV-1 to infect and express naturally in human endothelial cells allows for the possible use of this virus in the study of specific host inflammatory responses and specific viral genes involved in the pathogenesis of adenovirus-induced respiratory infection.

**Storage**

*Short-term:* unopened, undiluted vials for less than a week at 4°C.

*Long-term:* at ~20°C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

**Stability:** 6–12 months at ~20°C or below.

**Shipping:** 4°C for solutions and room temp for powder.

### Source of Antibodies

Mouse serum containing antibodies to mouse adenovirus protein as tested by mouse anti-adenovirus hexon protein IgG ELISA kit #AE327110-1. Control sera are provided in a stabilizing buffer and 0.05% azide. Store liquid at 4°C for up to 3 months or frozen in suitable size aliquots.

Recommended as positive and negative controls for mouse anti-adenovirus protein IgG by ELISA (#AE327110-1).

* Use undiluted in 50–100 ul per well or dilute as necessary depending upon the sensitivity of the detection. The controls may register different values if tested in a kit from a different manufacturer.


*This product is for In vitro research use only.

**Related material available from ADI**

- **Catalog# Prod Description**
  - 950-100-AHA Human Anti-Human Adenovirus (hAd5 hxn) IgA ELISA kit, 96 tests, Quantitative
  - 950-110-AHG Human Anti-Human Adenovirus (hAd5 hxn) IgG ELISA kit, 96 tests, Quantitative
  - 950-120-AHM Human Anti-Human Adenovirus (hAd5 hxn) IgM ELISA kit, 96 tests, Quantitative
  - HCLS-17010 293 Cell Slide (Human (embryonal) kidney transformed by shreaded human adenovirus 5 (Ad 5) DNA) (5 slides/pk)
  - 950-130-AMG Mouse Anti-Human Adenovirus (hAd5 hxn) IgG ELISA kit, 96 tests, Quantitative
  - 950-140-AMM Mouse Anti-Human Adenovirus (hAd5 hxn) IgM ELISA kit, 96 tests, Quantitative
  - ADV11-A Anti-Adenovirus type 2, hexon IgG (reacts with 1-7a, 8, 31, 40-41)
  - ADV11-BTN Anti-Adenovirus type 2, hexon IgG-Biotin conjugate
  - ADV11-FITC Anti-Adenovirus type 2, hexon IgG-FITC conjugate
  - ADV11-HPR Anti-Adenovirus type 2, hexon IgG-HPR conjugate
  - ADV12-M Monoclonal Anti-Adenovirus (many isotypes) hexon IgG
  - ADV12-FITC Monoclonal Anti-Adenovirus (many isotypes) IgG-FITC conjugate
  - ADV13-M Monoclonal Anti-Adenovirus type 40 IgG, aff pure
  - ADV14-M Monoclonal Anti-Adenovirus type 41 IgG, aff pure
  - ADV15-M Monoclonal Anti-Adenovirus type 40/41 IgG, aff pure
  - ADV17-M Monoclonal Anti-Adenovirus type (pan, reacts with all human serotypes) IgG, aff pure
  - ADV16-M Monoclonal Anti-Adenovirus hexon (types 1, 5, 8, 27) IgG
  - ADV65-N Adenovirus (strain Adenoid 6) type 2, semi-pure viral lysate (antigens, host MRC-5 cells)
  - ADV86-N Adenovirus (strain Adenoid 6) type 2 hexons antigens, purified (host Vero cells)
  - 950-155-AMM Monkey Anti-Adenovirus (hAd5 hxn) IgM ELISA kit, 96 tests, Quantitative
  - 950-150-AMG Monkey Anti-Human Adenovirus (hAd5 hxn) IgG ELISA kit, 96 tests, Quantitative
  - AE-327110-1 Rat Anti-Mouse Adenovirus hexon antibody (Madv Hxn) IgG ELISA Kit, 96 tests, Quantitative
  - AE-327100-1 Mouse Anti-Mouse Adenovirus hexon antibody (Madv Hxn) IgG ELISA Kit, 96 tests, Quantitative
  - AE-327120-1 Monkey/Chimp Anti-Mouse Adenovirus hexon antibody (hAdV Hxn) IgG ELISA Kit, 96 tests, Quantitative

**950-130-01N-Mouse-Adenovirus-Hexon-Protein 151211AC**