ALPHA DIAGNOSTIC INTERNATIONAL

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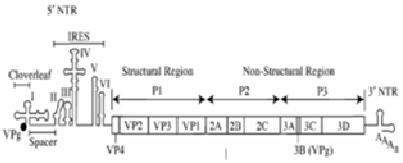
Product Specification Sheet

□ Cat. # POLV31-M Mouse monoclonal Anti-Poliomyelitis Virus 3 IgG, aff pure **SIZE**: 100 ul

Poliomyelitis, often called polio or infantile paralysis, is an acute viral infectious disease spread from person to person, primarily via the fecal-oral route. Spinal polio is the most common form, characterized by asymmetric paralysis that most often involves the legs. The term poliomyelitis is used to identify the disease caused by any of the three serotypes of poliovirus. Type 1 (Brunhilde): often with severe symptoms Type 2 (Lansing): with milder symptoms Type 3 (Leon): rare, but with severe symptoms. Antibodies to poliovirus can be diagnostic, and are generally detected in the blood of infected patients early in the course of infection.



Poliovirus is a human enterovirus and member of the family of Picornaviridae. It composed of an ss-positive sense **RNA genome** (~7500 nt) and a **protein capsid**. Because of its short genome and its simple composition—only RNA and a non-enveloped icosahedral protein coat that encapsulates it—poliovirus is widely regarded as the simplest significant virus. Poliovirus mRNA is translated as one long polypeptide. This polypeptide is then auto-cleaved by internal proteases into approximately 10 individual viral proteins, including: 3Dpol, an RNA dependent RNA polymerase; 2Apro and 3Cpro/3CDpro, proteases which cleave the viral polypeptide; VPg (3B), a small protein that binds viral RNA and is necessary for synthesis of viral positive and negative strand RNA; 2BC, 2B, 2C, 3AB, 3A, 3B proteins which comprise the protein complex needed for virus replication; VP0, VP1, VP2, VP3, VP4 proteins of the viral capsid. Capsid proteins VP1, VP2, VP3 and VP4 form a closed capsid enclosing the viral positive strand RNA genome. VP4 lies on the inner surface of the protein shell formed by VP1, VP2 and VP3. Together they form an icosahedral capsid (T=3) composed of 60 copies of each VP1, VP2, and VP3. The capsid interacts with human PVR at this site to provide virion attachment to target cell. Poliovirus capsid protein VP1 is one of four structural proteins and its antigenic The N-termini of most EV VP1 proteins contain highly conserved immunogenic regions that are recognized by sera from most EV-infected patients. Poliovirus VP1 has been considered a candidate for recombinant poliovirus subunit vaccine.

Poliovirus is structurally similar to other human enteroviruses (coxsackieviruses, echoviruses, and rhinoviruses), which also use immunoglobulin-like molecules to recognize and enter host cells. There are **three serotypes of poliovirus**, PV1, PV2, and PV3; each with a slightly different capsid protein. Capsid proteins define cellular receptor specificity and virus antigenicity. PV1 is the most common form encountered in nature, however all three forms are extremely infectious. Specific strains of each serotype are used to prepare **vaccines against polio**. **Inactive polio vaccine (IPV)** is prepared by formalin inactivation of three wild, virulent reference strains, Mahoney or Brunenders (PV1), MEF-1/Lansing (PV2), and Saukett/Leon (PV3). Oral polio vaccine (OPV) contains live attenuated (weakened) strains of the three serotypes of poliovirus. Passaging the virus strains in monkey kidney epithelial cells introduces mutations in the viral IRES, and hinders (attenuates) the ability of the virus to infect nervous tissue.

Antigen	Highly purified inactivated Poliomyelitis Virus 3
Ab Host/type	Mouse monoclonal IgG2ak (#POLV31-M). Protein A/G purified and supplied in PBS, pH 7.4 and 0.1% BSA in liquid or lyophilized in the same buffer. **Reconstitute** powder in water in 100 ul.
2-ab	**Goat Anti-mouse IgG-HRP conjugate** Cat # 40320 (AP, biotin, FITC conjugates also available)
-ve control IgG	Cat # 20008-1, Mouse (non-immune) Serum IgG, purified, suitable for ELISA, Western, IHC as –ve control

Isotype Controls for mouse IgG2a

Catalog#	ProdDescription
20102-102	Mouse IgG2a isotype control, purified
20102-102-B	Mouse IgG2a-Biotin conjugate (isotype
20102-102-F	Mouse IgG2a-FITC conjugate (isotype control)
20102-102-FP	Mouse IgG2a-FITC-PE conjugate
20102-102-HP	Mouse IgG2a-HRP conjugate (isotype control)
20102-102-PC5	Mouse IgG2a-PE-Cy5 conjugate (isotype
20102-102-PE	ouse IgG2a-PE conjugate (isotype control)

Storage and Shelf Life: Store lyophilized antiserum at 2-4oC. Stable for 1 year. Reconstituted antibody in solution at -20oC in suitable size aliquots.

Recommended Usage

ELISA: 1:200-1:000

Specificity & Cross-reactivity

Antibodies are specific to poliomyelitis Virus 3 (sabin) with no reactivity with polioviruses 1-2.

Reference: Nomoto A (1982) PNAS 79, 5793-5797; Hammerle T (1991) JBC 266, 5412-5416; Hogle J (2002) Ann. Rev. Micorbiol. 56, 677-702; Baltimore D (1981) PNAS 78, 4887-4894; Kitmaura N (1981) Nature 291, 547-553

Related items available from ADI

970-100-PHG	Human Anti-Poliomyelitis Virus 1-3 IgG ELISA
970-120-PMG	Mouse Anti-Poliomyelitis Virus 1-3 IgG ELISA
970-130-PRG	Rabbit Anti-Poliomyelitis Virus 1-3 IgG ELISA
970-140-PRM	Rabbit Anti-Poliomyelitis Virus 1-3 IgM ELISA
970-150-PMG	Monkey Anti-Polio Virus 1-3 IgG ELISA Kit,
POLV11-S	Anti-Poliomyelitis Virus 1-3 antiserum
POLV21-M	Mouse monoclonal Anti-Polio Virus 1-3 IgG,
POLV13-A	Anti-Poliomyelitis Virus 1-3 IgG
POLV13-BTN	Anti-Polio Virus 1-3 IgG-Biotin Conjugate
POLV13-FITC	Anti-Polio Virus 1-3 IgG-FITC Conjugate
POLV13-HRP	Anti-Polio Virus 1-3 IgG-HRP Conjugate

POLV14-M Mouse monoclonal Anti-Poliomyelitis Virus 1 IgG, aff pure
POLV15-R-10 Recombinant (E. Coli) Poliomyelitis Virus 1 Viral Protein 1 (Sabin; POLV1-VP1, 302-aa; full length, >95%)
POLV15-S Anti-Poliomyelitis Virus 1 Viral Protein 1 (Sabin; POLV1-VP1)
POLV16-S Anti-Poliomyelitis Virus 1 (LSc,2ab strain) antiserum, neutralizing
POLV31-M Anti-Poliomyelitis Virus 1 (sabin strain, native) antiserum,
POLV21-M Mouse monoclonal Anti-Poliomyelitis Virus 2 IgG, aff pure
POLV22-S Anti-Poliomyelitis Virus 2 (P712,Ch,2ab strain) antiserum,
POLV31-M Anti-Poliomyelitis Virus 2 (sabin strain, native) antiserum,
POLV31-M Mouse monoclonal Anti-Poliomyelitis Virus 3 IgG, aff pure
POLV31-M Anti-Poliomyelitis Virus 3 (Leon1,Ch,2ab strain) antiserum,
POLV33-S Anti-Poliomyelitis Virus 3 (sabin strain, native) antiserum, neutralizing

POLV31-M 140109A

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