

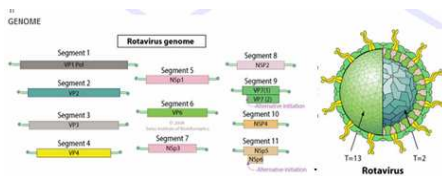
Product Specification Sheet

**Mouse monoclonal Anti-Nebraska calf diarrhea virus Protein 6 ((p43/VP6) Antibodies and Controls**

<input type="checkbox"/> <b>Cat # EDIM16-M</b>	Mouse monoclonal Anti-Nebraska calf diarrhea virus Protein 6 ((p43/VP6) IgG, aff pure	<b>SIZE:</b> 100 ul
<input type="checkbox"/> <b>Cat # EDIM14-C</b>	Recombinant EDIM/rotavirus Capsid Protein 6 (VP6) WB +ve control	<b>SIZE:</b> 100 ul

Animals, just like humans, are susceptible to various bacterial and viral infections. Animals are used widely in biomedical research. Laboratory animal infections may compromise the health of the animals and ultimately the research data derived from them. Microbial infections alter not only the animal behavior but also the biological responses. Apart from the use of whole animals for experimentations, numerous animal cell lines and proteins are also derived from animals and used in biomedical research. Animals or animal-derived products are transported from one part of the world to another in a matter of days. So there is great potential for the diseases to spread very quickly. Many infections are asymptomatic and without any overt clinical symptoms. Detection of microbial infections has relied largely on serological screening and presence of microbial antigens or antibodies.

Diarrhea in young laboratory mice is often caused by mouse rotavirus, also called **epizootic diarrhea of infant mice (EDIM)**. This virus is highly contagious and is transmitted via contaminated bedding, airborne dust, and through contact with infected mice. There is no evidence of transplacental infection. These animals present with watery, mustard-colored stools, lethargy, and distended abdomens. If the impacted fecal material is not removed spontaneously or deliberately, the animals will die. Rotavirus infections are the primary causes of several gastroenteritis in young children and are the cause of nearly one million deaths worldwide each year. Diagnosis is usually based on serology, via ELISA or IFA or both.



EDIM or rotavirus is a genus of dsRNA virus in the family Reoviridae. There are five species of this virus (A-E). Rotavirus A, the most common, causes more than

90% of infections in humans. Rotaviruses infect the young of many species of animals and they are a major cause of diarrhoea in wild and reared animals worldwide. As a pathogen of livestock, notably in young calves and piglets, rotaviruses cause economic loss to farmers because of costs of treatment associated with high morbidity and mortality rates. The genome of rotavirus consists of 11 unique double helix molecules of RNA which are 18.5kb in total. Each helix, or segment, is a gene, numbered 1 to 11 by decreasing size. Each gene codes for one protein, except genes 9, which codes for two. The RNA is surrounded by a three-layered icosahedral protein capsid. There are six viral structural capsid proteins (VP1-4, VP6-7) that form the virus particle (virion). In addition to the VPs, there are six nonstructural proteins (NSPs), that are only produced in cells infected by rotavirus (NSP1-6). VP6 forms the bulk of the capsid. It is highly antigenic and can be used to identify rotavirus infections. VP6 protein of the murine rotavirus strain EDIM are able to elicit protection against rotavirus shedding in the adult mouse model. VP6-based human vaccines are in active clinical trials.

**Source of Antigen and Antibodies**

<b>Antigen</b>	NCDV (Nebraska Calf Diarrhea virus)
<b>Ab Host/type</b>	Mouse, monoclonal IgG2a (Cat # EDM15-M) supplied in 0.05% azide as preservative.
<b>2-Ab</b>	Goat Anti-mouse IgG-HRP conjugate Cat # 40320 (AP, biotin, FITC conjugates also available)
<b>-ve control IgG</b>	Cat # 20008-1, Mouse (non-immune) Serum IgG, purified, suitable for ELISA, Western, IHC as -ve control

Murine EDIM-VP6 was expressed in E. Coli as his-tag fusion protein (full length, purity >95%, ~46.5 KDa). Purified EDIM-VP6 protein for Western blot +ve control (Cat # EDIM14-C) is supplied in SDS-PAGE sample buffer (reduced). Load 10 ul/lane of # EDIM14-C for good visibility with antibody Cat # EDIM14-S or #EDIM16-M. Store at -20oC in suitable size aliquots. SDS may

crystallize in cold conditions. It should redissolve by warming before taking it from the stock. It should be heated once prior to loading on gels. If the product has been stored for several weeks, then it may be preferable to add 5 ul of fresh 2x sample buffer per 10 ul of the # EDIM14-C solution prior to heating and loading on gels. This preparation is not biologically active. It is not suitable for ELISA or other applications where native protein is required. Do not freeze, thaw, or heat repeatedly

**Form & Storage of Antibodies/Peptide Control**

**Antiserum**

100 ul  solution  lyophilized powder

Buffer: PBS+0.05% azide

**Reconstitute powder** 100 ul of PBS.

**Storage**

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

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

**Stability:** 6-12 months at -20oC or below.

**Shipping:** 4oC for solutions and room temp for powder.

**Recommended Usage**

**Western Blotting:** An initial dilution of 1:500-2K is recommended for Western. Users must optimize antibody dilution depending upon the nature of samples and other technical conditions.

**ELISA (1:10-50K; using 50-100 ng antigen/well).**

**Histochemistry & Immunofluorescence:** not tested.

**Specificity & Cross-reactivity**

Murine EDIM-VP6 protein is highly conserved in bovine, human Rotavirus A, simian, Feline, caprine, and porcine rotaviruses VP6 (96%). Mouse Anti-Rotavirus/EDIM-VP6 reacts with p43 capsid protein (VP6) in human, monkey, pig, dog and bovine. Antibody crossreactivity in other species has not been established. Recombinant purified murine EDIM-VP6 protein is available for control studies.

**References:** Baker DO (1998) Clin. Microbiol. Rev. 11, 231-266; Parker JC (1982) *The Mouse in Biomedical Research Diseases.* Academic Press, Inc. pp. 160-167; Choci AHC (2000) J. Virol. 74, 11574-11580; Matthijnsens J (2008) J. Virol. 82, 3204-3219;.

\*This product is for In vitro research use only.

**Related material available from ADI**

EDIM14-C	Recombinant (E. coli, his-tag, ~46 Kda) Epizootic diarrhea of infant mice (EDIM)/rotavirus Capsid Protein 6 (VP6) control for Western blot
EDIM14-S	Rabbit Anti-Epizootic diarrhea of infant mice (EDIM)/rotavirus Capsid Protein 6 (VP6) antiserum
EDIM15-M	RecombiVirus Mouse monoclonal Anti-Epizootic diarrhea of infant mice (EDIM)/rotavirus Capsid Protein 6 (VP6) IgG, aff pure
EDIM15-R-10	Recombinant (E. coli, his-tag, ~46 Kda) Epizootic diarrhea of infant mice (EDIM)/rotavirus Capsid Protein 6 (VP6), full length (>95% pure)
EDIM17-M	RecombiVirus Mouse monoclonal Anti-Rotavirus (all serotypes) (p43/VP6) IgG, aff pure
EDIM18-S	Anti-Nebraska calf diarrhea virus (NCDV) antiserum

EDIM16-M 140924P

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