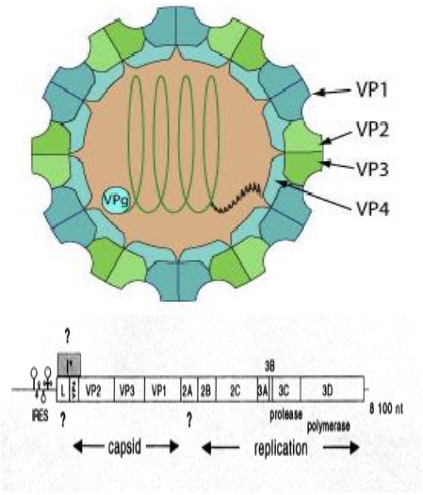
ALPHA DIAGNOSTIC INTERNATIONAL

Product Specification Sheet

☐ TMEV11-C	Recombinant Theiler's murine encephalomyelitis virus (TMEV/GDVII) VP1 Protein Control for Western Blot	Size: 100 ul
☐ TMEV11-S	Rabbit Anti-Theiler's murine encephalomyelitis virus (TMEV/GDVII) VP1 Antiserum	Size: 100 ul

Theiler's murine encephalomyelitis virus (TMEV or Theiler's virus) is a single-stranded RNA virus that belongs to the Picornaviridae family and a member of the Cardiovirus genus. TMEV is responsible for causing neurological and enteric diseases in susceptible strains of mice. It has been used as a mouse model for studying virally induced paralysis, as well as encephalomyelitis comparable to Multiple sclerosis. Depending on the mouse and viral strain, viral pathogenesis can range from negligible, to chronic or acute encephalomyelitis.



TMEV genome consists of single-stranded RNA of positive polarity comprising approximately 8,100 nucleotides. The genomic organization of TMEV follows that of standard picornavirus genomic format (L-4-3-4). It codes for 12 proteins arranged in the order 5′-L, VP4, VP2, VP3, VP1, 2A, 2B, 2C, 3A, 3B, 3C, 3D-3′. The 76-amino-acid long L protein is a zinc-binding metalloprotein, but its exact function is not fully known. VP4, VP2, VP3, and VP1 are capsid proteins. An additional protein (l*), unique to persistent strains of Theiler's virus is encoded by an alternative open reading frame overlapping regions L, VP4 and VP2. Translation initiation is mediated by the recognition of an internal ribosome entry site (IRES) contained in the 5'non-coding region. Proteins 2A, 2B, 2C, 3A, 3B, 3C, and 3D are required, directly or indirectly, for viral RNA replication.

Two major subgroups of TMEV have been reported, and they are distinguished primarily on the basis of their different neurovirulence, antigenicity, and other characteristics. The first subgroup includes the **GDVII and FA strains**, which are extremely neurovirulent variants that induce only acute encephalitis and do not persist in the very few animals that survive the infection. The second subgroup is known as Theiler's original (TO) and includes the BeAn and DA strains. Members of the two subgroups, particularly in the GDVII, BeAn, and DA strains, have been sequenced and extensively characterized.

Source of Antigen and Antibodies

Antigen	Recombinant purified TMEV-VP1 protein ~34 kDa (276 aa)
Ab Host/type	Rabbit, polyclonal, Unpurified antiserum (**cat #TMEV11-S**)
2-ab	**Goat Anti-rabbit IgG-HRP** cat # 20320 (AP, biotin, FITC conjugates also available)
-ve control IgG	**# 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as –ve control**

Theiler's murine encephalomyelitis virus (TMEV) VP1 is expressed in *E.coli* and purified using proprietary technique (>95%, ~65.4 kDa). Purified **recombinant TMEV for Western blot +ve control (#LSDV11-C)** is supplied in SDS-PAGE sample buffer. 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.

Form & Storage of Antibodies/Peptide Control

Antiserum (unpurified)
☐ 100ul ☐ ☐ solution ☐ lyophilized powder
Supplied 0.05% azide, **Reconstitute** powder in 100 ul PBS

Storage

Short-term: unopened, undiluted liquid vials at -20°C and powder at 4oC or -20oC..

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 –20oC or below.
Shipping: 4oC for solutions and room temp for powder

Recommended Usage

ELISA, Western blot

Cellular Activity

Specificity & Cross-reactivity

TMEV (276-aa, protein accession # P08545) is conserved Theiler's murine encephalomyelitis virus (100%), Rat theilovirus 1 (74.3%) and Saffold virus (57%).

Recommended Usage

Western Blotting (1:500-1:5K using ECL technique).

ELISA: Control antigen can be used to coat ELISA plates at 1 ug/ml and detected with antibodies (0.5-1 ug/ml for affinity pure).

General References: Stavrou, S (2010) Journal of Virology 84 (18): 9181–9; Theiler, M (1937) The Journal of Experimental Medicine 65 (5): 705–19; Ohara, Y.; Obuchi, M. (1999) Recent research developments in virology. pp. 897–918.

*This product is for In vitro research use only.

Related material available from ADI

Catalog# Prod Description

AE-300000-01N Mouse anti-Theiler's murine encephalomyelitis virus (TMEV/GDVII) VP1 IgG Negative Serum l

AE-300000-02P Mouse anti-Theiler's murine encephalomyelitis virus (TMEV/GDVII) VP1 IgG Positive Serum l

AE-300010-03N Rat anti-Theiler's murine encephalomyelitis virus (TMEV/GDVII) VP1 IgG Negative Serum

AE-300010-04P Rat anti-Theiler's murine encephalomyelitis virus (TMEV/GDVII) VP1 IgG Positive Serum

TMEV11-C Recombinant Theiler's murine encephalomyelitis virus (TMEV/GDVII) VP1 Protein Control for Western Blot

TMEV11-S Rabbit Anti-Theiler's murine encephalomyelitis virus (TMEV/GDVII) VP1 Antiserum

TMEV15-R-10 Recombinant (E. Coli) Theiler's murine encephalomyelitis virus (TMEV/GDVII) VP1 protein (his-tag, >95% Pure)

AE-300000-01N-02P-TMEV-VP1-Control 160225SV