ALPHA DIAGNOSTIC INTERNATIONAL

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Product Specification Sheet

Recombinant Rabies Virus nucleocapsid protein

□ Cat. # RBVNP15-R-10	Recombinant purified Rabies Virus (CVS-11) nucleocapsid protein	**SIZE**: 10 ug
□ Cat. # RBVNP15-R-25	Recombinant purified Rabies Virus (CVS-11) nucleocapsid protein	**SIZE**: 25 ug

The rabies virus is a member of the Lyssavirus genus, which have helical symmetry, so their infectious particles are approximately cylindrical in shape. They are characterized by an extremely broad host spectrum ranging from plants to insects and mammals; human-infecting viruses more commonly have cubic symmetry and take shapes approximating regular polyhedron. The virus has a bullet like shape with a length of about 180 nm and a cross-sectional diameter of about 75 nm. One end is rounded or conical and the other end is planar or concave. The lipoprotein envelope carries knob-like spikes composed of Glycoprotein G. Spikes do not cover the planar end of the virion (virus particle). Beneath the envelope is the membrane or matrix (M) protein layer which may be invaginated at the planar end. The core of the virion consists of helically arranged ribonucleoprotein

Rapid and accurate laboratory diagnosis of rabies in humans and other animals are essential for timely administration of post exposure prophylaxis. The nature of rabies disease dictates that laboratory tests be standardized, rapid, sensitive, specific, economical, and reliable. The standard test for rabies testing is dFA.

Rabies Virus nucleocapsid encapsidates the genome in a ratio of one protein N per nine ribonucleotides, protecting it from nucleases. If expressed without protein P it binds non-specifically RNA and therefore can bind it's own mRNA. Interaction with protein P abolishes any non-specific RNA binding, and prevents phosphorylation. The soluble N-P complex encapsidates specifically the genomic RNA, with protein N protecting the genome like a pearl necklace. The encapsidated genomic RNA is termed the **nucleocapsid (NC)** and serves as template for viral transcription and replication. Protein N binds protein P in the NC through a different interaction, and can be phosphorylated. Subsequent viral replication is dependent on intracellular concentration of newly synthesized protein N. During replication, encapsidation by protein N is coupled to RNA synthesis and all replicative products are resistant to nucleases.

Homomultimerizes to form the nucleocapsid. Binds to viral genomic RNA. In nucleocapsid, binds protein P and thereby positions the polymerase on the template. Protein P acts as a chaperone on free protein N to prevent it from aggregation before encapsidating genomic RNA.

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

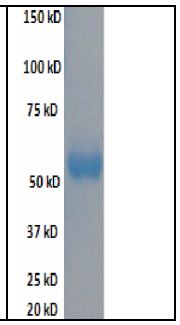
Long-term: at –20C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

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

Source of Antigen and Antibodies

Recombinant rabies virus nucleoprotein (450-aa >, ~56 Kda, His-tag) was expressed in S. cerevisiae and purified, 98% pure. It is supplied in PBS, pH 7.4, and * M urea (lot sp. conc on the vial) or powder form. Store at -20oC or below for at least 6-months.

Fig: Purified rabies virus Nucleoprotein ~56 Kda.



Recommended Usage

ELISA: coat at 1-2 ug/ml and detect with appropriate antibodies (#RBVN12-S).

Western: load 100-500 ng protein per lane and detect with appropriate antibodies.

Specificity

Recombinant Protein is recognized by polyclonal (#RBVNP12-S). Rabies virus NP is 98-100% conserved in various strains.

References: Mannen K (1991) Virus Genes 5, 69-73; Gupta PK (2006) Unitprot #A8jXF6.

*This product is for In vitro research use only.

Related material available from ADI

600-010-DRV	Dog Anti-Rabies Virus IgG ELISA Kit
600-020-HRV	Human Anti-Rabies Virus IgG ELISA Kit,
600-030-MRG	Mouse Anti-Rabies Virus IgG ELISA Kit,
600-040-RRG	Rabbit Anti-Rabies Virus IgG ELISA Kit,
600-045-RRM	Rabbit Anti-Rabies Virus IgM ELISA Kit,
600-050-HRG	Horse Anti-Rabies Virus IgG ELISA Kit,
600-060-CRG	Canine rabies virus antibody ELISA kit
600-070-CRG	Monkey Rabies Virus antiboday ELISA
AE-200130-2	Swine/Porcine Pseudorabies Antibody ELISA
AE-200135-2	Swine/Porcine Pseudorabies Virus IgE Antibody Distinguishing kit

RBV14-M	Mouse monoclonal Anti-Rabies Virus IgG, aff pure
RBV13-S	Anti-Rabies Virus antiserum
RBV14-M	Mouse monoclonal Anti-Rabies Virus glycoprotein IgG, aff pure

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