

Product datasheet

anti-AAV9 (intact particle) mouse monoclonal, ADK9, liquid, purified

Short overview

Cat. No.	690162
Quantity	1 ml (50 µg/ml)
Concentration	50 µg/ml

Product description

Host	Mouse
Antibody Type	Monoclonal
Isotype	IgA kappa
Clone	ADK9
Immunogen	AAV9 capsids
Formulation	Liquid; PBS with 0.09% sodium azide and 0.5% BSA
Synonym	Adeno-associated virus 9; AAV-9
Conjugate	Unconjugated
Purification	Affinity chromatography
Storage	Up to 1 month: 2-8°C; long term storage in aliquots at -20°C; avoid freeze/thaw cycles
Intended use	Research use only
Application	Dot blot, ELISA, ICC/IF, Neutralization assay
Reactivity	AAV9
No reactivity	AAV1, AAV11, AAV12, AAV2, AAV3, AAV4, AAV5, AAV6, AAV7, AAV8, AAVDJ, AAVrh10, AAVrh74

Applications

Dot Blot	1:100-1:1,000 (0.05-0.5 µg/ml; non-denaturing conditions)
ELISA	Assay dependent
Immunocytochemistry (ICC)	Assay dependent
Neutralization Assay	EC50 ~2 ng/ml (AAV9) - assay dependent

Background

For characterization of different stages of infection and very useful for the analysis of the AAV assembly process. ADK9 specifically reacts with intact adeno-associated virus particles, empty and full capsids. Recognizes a conformational epitope of assembled capsids. The antibody cannot be used for immunoblotting. The antibody is also useful for neutralizing experiments.

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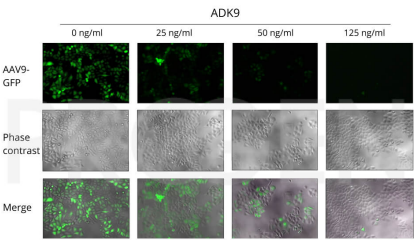
Product images

Serotype	Clone	Residues	
AAV9	ADK9	453-GSGQN-457	Neutralization epitope, not sure because no other epitope was i

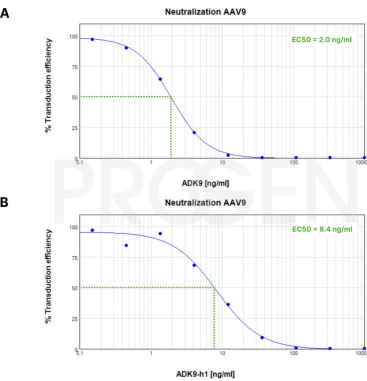
Adachi, K., Enoki, T., Kawano, Y., Veraz, M. & Nakai, H. Drawing a high-resolution functional map of adeno-sequencing. *Nat. Commun.* 5, (2014).

For AAV9 the neutralization epitope has been identified and might give an additional indication about the binding residues of the neutralizing antibody ADK9 used for the corresponding AAV9 Titration ELISAs. ADK9 recognizes and neutralizes assembled AAV9 capsids.

Adachi, K., Enoki, T., Kawano, Y., Veraz, M. & Nakai, H. Drawing a high-resolution functional map of adeno-associated virus capsid by massively parallel sequencing. *Nat. Commun.* 5, (2014).



Neutralization of AAV9-GFP vectors with the ADK9 antibody (Cat. No. 690162). AAV infection was shown in HeLa cells and photos (GFP, CPE, merge) were taken ~48 h post infection. Neutralization was enhanced with increasing ADK9 concentration.



Neutralization of AAV9 with mouse monoclonal AAV9 antibody clone ADK9 (A) and human chimeric AAV9 antibody clone ADK9-h1 (B) by using AAV9-NanoLuc® viral particles from Promega. (A) anti-AAV9 (intact particle) mouse monoclonal, ADK9 (Cat. No. 610162) or (B) anti-AAV9, human chimeric, ADK9-h1 (Cat. No. 692378) were preincubated with AAV9-NanoLuc® viral particles for 30 min at RT at 300 rpm (antibody concentrations 0.2-3,000 ng/ml). HEK293 cells (100 µl) were plated at 200,000 cells/ml in DMEM + 1% FCS. Virus-antibody-mix (20 µl) was added to the cells and incubated for 16-24 h at 37°C. Extracellular NanoLuc Inhibitor and Nano-Glo® Live Cell Assay System (Promega) was added to the wells and incubated for 5 min at RT at 300 rpm. Luminescence was measured using an ID5-Reader and plotted with Softmax Pro 7.1 software to determine the EC50 values.

References

Publication	Species	Application
Adachi, K., Enoki, T., Kawano, Y., Veraz, M. & Nakai, H. Drawing a high-resolution functional map of adeno-associated virus capsid by massively parallel sequencing. Nat. Commun. 5, (2014).	AAV9	Neutralization epitope mapping
Varadi, K. et al. Novel random peptide libraries displayed on AAV serotype 9 for selection of endothelial cell-directed gene transfer vectors. Gene Ther. 19, 800-809 (2012).	AAV9	neutralization
Tseng, Y.-S. et al. Generation and characterization of anti-Adeno-associated virus serotype 8 (AAV8) and anti-AAV9 monoclonal antibodies. J. Virol. Methods 236, 105-110 (2016).	AAV9	dot blot, neutralization
Emmanuel, S. N. et al. Structurally Mapping Antigenic Epitopes of Adeno-associated Virus 9: Development of Antibody Escape Variants. J. Virol. 96, (2022).	AAV9	neutralization, epitope mapping, dot blot
Mietzsch, M. et al. OneBac: Platform for Scalable and High-Titer Production of Adeno-Associated Virus Serotype 1-12 Vectors for Gene Therapy. Hum. Gene Ther. 25, 212-222 (2014).	AAV9	dot blot