Product datasheet

anti-AAV VP1/VP2/VP3 mouse monoclonal, B1, liquid, purified

Short overview

Cat. No.	690058
Quantity	1 ml
Concentration	50 µg/ml

Product description

Host	Mouse
Antibody Type	Monoclonal
Isotype	IgG1
Clone	B1
Immunogen	AAV2 capsids
Formulation	PBS, pH 7.4 with 0.09% sodium azide and 0.5% BSA
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	Affinity chromatography, Dot blot, ICC/IF, IP, WB
Reactivity	AAV1, AAV2, AAV3, AAV5, AAV6, AAV7, AAV8, AAV9, AAVDJ, AAVrh10

Applications

Affinity Chromatography	Assay dependent
Dot Blot	1:500 (0.1 µg/ml; denaturing conditions)
Immunocytochemistry (ICC)	Assay dependent
Immunoprecipitation (IP)	Assay dependent (precipitation of mainly free VP proteins)
Western Blot (WB)	1:250-1:500 (0.1-0.2 µg/ml)

Background

The B1 antibody reacts with free VP1, VP2 and VP3 of adeno-associated virus (AAV) and at a reduced degree with assembled viral particles. VP1 and VP2 are highly enriched in the nucleus, while non-assembled VP3 is evenly distributed in the nucleus and the cytoplasm. Epitope mapping experiments (Wobus et al., 2000) identified aa726 to aa733 (C-terminus; common to all 3 VP proteins) as the specific binding region. The antibody is also useful for characterization of different stages of infection.Wobus, C. E. et al. Monoclonal antibodies against the adeno-associated virus type 2 (AAV-2) capsid: epitope mapping and identification of capsid domains involved in AAV-2-cell interaction and neutralization of AAV-2 infection. J. Virol. 74, 9281-93 (2000).

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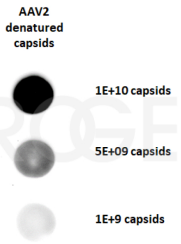
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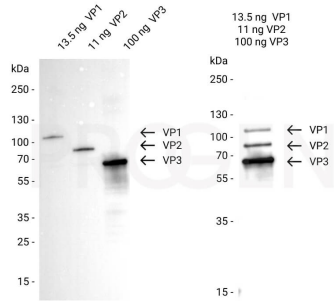
B1 epitopes in AAV serotypes

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AAV1      KSANVDFTVDNNGLYTEPRPIGTRYLTRPL
AAV2      KSVNVDFTVDTNGVYSEPRPIGTRYLTRNL
AAV-DJ    KSTSVDFAVNTEGVYSEPRPIGTRYLTRNL
AAV3B     KSVNVDFTVDTNGVYSEPRPIGTRYLTRNL
AAV4      QQNSLLWAPDAAGKYTEPRAIGTRYLTHHL
AAV5      DPQFVDFAPDSTGEYRTTRPIGTRYLTRPL
AAV6      KSANVDFTVDNNGLYTEPRPIGTRYLTRPL
AAV7      KQTGVDFAVDSQGVYSEPRPIGTRYLTRNL
AAV8      KSTSVDFAVNTEGVYSEPRPIGTRYLTRNL
AAV9      KSNNVEFAVNTEGVYSEPRPIGTRYLTRNL
AAVrh10   KSTNVDFAVNTEGTYSEPRPIGTRYLTRNL
AAVhu.37  KSTNVDFAVNTEGTYSEPRPIGTRYLTRNL
AAVrh74   KSTNVDFAVNTEGTYSEPRPIGTRYLTRNL
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Alignment of B1 epitopes in different AAV serotypes.



Dot blot analysis of denatured AAV2 VP2 capsids with B1 antibody (Cat. No. 690058) and ECL detection.Dot blot analysis was performed on 1E+10, 5E+09 or 1E+09 denatured AAV2 capsids. The capsids were denatured for 10 min at 95°C. The nitrocellulose membrane was blocked with 5% dry milk in PBST (PBS + 0.1% Tween 20) for 1 h at RT. The primary antibody anti-AAV VP1/VP2/VP3, B1 (Cat. No. 690058) was diluted in blocking buffer (antibody concentration 100 ng/ml) and incubated for 1 h at RT. The secondary antibody goat anti-mouse IgG HRP was also diluted in blocking buffer (antibody concentration 200 ng/ml) and incubated for 1 h at RT. The bands were visualized by chemiluminescent detection using PierceTM ECL Plus Western Blotting Substrate.



Western blot analysis of recombinant AAV2 capsid proteins (Cat. No. 640823, 640824, 640825) with B1 antibody (Cat. No. 690058). Western blot analysis was performed on the precise molar ratio of 1:1:10 (VP1:VP2:VP3) either in separate lanes or combined in one lane The PVDF membranes were blocked with 5% dry milk in PBST (PBS + 0.1% Tween 20) for 1 h at RT. The primary antibody anti-AAV VP1/VP2/VP3 mouse monoclonal, B1 (Cat. No. 690058) was diluted in blocking buffer (antibody concentration 0.5 µg/ml) and incubated for 1 h at RT. The secondary antibody goat anti-mouse IgG HRP was also diluted in blocking buffer (antibody concentration 0.2 µg/ml) and incubated for 1 h at RT. The bands were visualized by chemiluminescent detection using PierceTM ECL Western Blotting Substrate.

References

Publication	Species	Application
Emmanuel, S. N. et al. Structurally Mapping Antigenic Epitopes of Adeno-associated Virus 9: Development of Antibody Escape Variants. J. Virol. 96, (2022).	AAV5, 9	dot blot
Meng, Y. et al. Cell-penetrating peptides enhance the transduction of adeno-associated virus serotype 9 in the central nervous system. Mol Ther Methods Clin Dev. 21, 28-41(2021).	AAV9	IHC/IF
Galibert, L. et al. Functional roles of the membrane-associated AAV protein MAAP. Sci. Rep. 11, (2021).	AAV2	WB
Kuklik, J. et al. Development of a bispecific antibody-based platform for retargeting of capsid modified aav vectors. Int. J. Mol. Sci. 22, 8355 (2021).	AAV2	WB
Zhang, R. et al. Divergent engagements between adeno-associated viruses with their cellular receptor AAVR. Nat.Commun. 10, 3760 (2019)	AAV	WB