AVIPure® AAV Affinity Resin

Quick Start

Introduction

AVIPure AAV Affinity Resins offer efficient purification of adeno-associated virus (AAV) serotypes AAV2, AAV5, AAV8, and AAV9 with capacities from > 2×10^{14} vp/mL of resin at 1-minute residence time to > 7×10^{14} vp/mL of resin at 4-minute residence time.

Process conditions

Optimal conditions for purification of AAV using AVIPure AAV resins must be determined empirically for each AAV construct. Some general process development recommendations for initial trial conditions for **concentrated feed streams** are provided below.

Step	Column volumes	Residence time	Suggested buffer
Sanitization	3 - 5 cv	4 - 6 min	0.1 M NaOH
Equilibration	8 cv	4 min	20 mM Tris, 150 - 400 mM NaCl, pH 7.5 Generally, equilibration can be matched to lysis buffer
Load	Titer dependent cv	1 - 4 min	As an example, with a post-concentration titer of 1.0×10^{13} vp/mL, load 20 CV for 2.0×10^{14} vp/mL$_{Resin}$
Wash 1	5 cv	4 min	Equilibration buffer
Wash 2 (if needed)	5 cv	4 min	As an example, 20 mM Tris, 50 mM octanoic acid, 0.5 M urea, pH 8.0 **OR** 20 mM Tris, 0.5-1 M NaCl, pH 7.5 may improve product purity
Wash 3	2 cv	4 min	Equilibration buffer
Elution	5 cv	4 min	50 - 100 mM Glycine, 150 mM NaCl, pH 2.0[a] • Elute fractions into 1 M Tris, pH 9 neutralization buffer (10 - 20% fraction volume) • Upflow elution may improve yield/recovery • For most efficient elution, maintain a 4-minute residence time even if using shorter residence time for other steps.
Strip	2 cv	4 min	0.1 M NaOH or process specific (e.g., pH < 2.0)
CIP[b]	5 or 1 cv	3 or 15 min	0.1 M NaOH
Re-equilibration	8 cv	4 min	Equilibration buffer

[a]See the table below for higher pH elution options.
[b]Total contact time for CIP should be 15 minutes. Can be used without separate strip step.

Serotype	Elution buffer
AAV2	50 - 100 mM glycine, 150 mM NaCl, pH 3
AAV5	
AAV8	
AAV9	30% ethylene glycol, 0.1 M glycine, 150 mM NaCl, pH 3. High recoveries have been achieved for some AAV9 capsids without NaCl. Include NaCl initially to establish baseline performance.

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The hardened agarose base bead enables use in typical bioprocess column diameters and bed heights (5 - 20 cm) and can be operated at short residence time, enabling **direct capture** from clarified lysate. The same protocol as shown above can be followed, but reducing the residence times for equilibration, washes, and re-equilibration to match the load residence time, which can be as short as 1 minute. For residence times less than two minutes, use of a shorter bed height (e.g., 5 cm) is recommended.

Find complete operating guidance in the AVIPure AAV Affinity Resin User Guide at repligen.com.

Ordering Information

Contact your account manager or customer service for sales, or purchase online at https://store.repligen.com/

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Description	AVIPure® AAV2	AVIPure® AAV5	AVIPure® AAV8	AVIPure® AAV9
Affinity resin, 10 mL	100AAV2-10	100AAV5-10	100AAV8-10	100AAV9-10
Affinity resin, 25 mL	100AAV2-25	100AAV5-25	100AAV8-25	100AAV9-25
Affinity resin, 100 mL	100AAV2-100	100AAV5-100	100AAV8-100	100AAV9-100
Affinity resin, 1 L	100AAV2-1000	100AAV5-1L	100AAV8-1000	100AAV9-1000
200 µL RoboColumn® - Strip of eight columns, 0.5 x 1 cm	23051008R	23051308R	23051108R	23051208R
600 µL RoboColumn® - Strip of eight columns, 0.5 x 3 cm	23051008R-30	23051308R-30	23051108R-30	23051208R-30
1 mL Pre-packed MiniChrom® Column, 0.5 x 5 cm	23051006*	23051306*	23051106*	23051206*
5 mL Pre-packed MiniChrom® Column, 1.13 x 5 cm	23051007*	23051307*	23051107*	23051207*
5 mL Pre-packed MiniChrom® Column, 0.8 x 10 cm	23051004-100	23051304-100	23051104-100	23051204-100

*5 cm bed height is recommended for use with fast flow rates (i.e., 1-minute residence times)

Note: *Additional custom OPUS® MiniChrom® and RoboColumn® configurations are also available. Contact your account manager for additional information.*

Customer Service

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