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POROS™ CaptureSelect™ AAV Affinity Resins

Enabling technologies for efficient downstream processing of AAV viral vectors

Gene therapy has undergone significant advances over the last few years and the adeno-associated virus (AAV) sub-classes have emerged as the vector of choice for many therapies. The field currently faces a challenge to develop efficient commercial manufacturing capabilities for these unique therapies and to increase productivity to meet market needs. Affinity chromatography for purification of these biomolecules offers clear advantages of obtaining high purity and high yield in a single step and it is an essential part of platform technologies.

The utilization of POROS™ CaptureSelect™ AAV8 and AAV9 enabling resins are a significant improvement to downstream processing. They are designed to help reduce purification steps, maximize productivity and offer a more scalable, consistent and platformable process.

	Binding Capacity (vg/mL)	Particle Size	pH Range
POROS™ CaptureSelect™ AAV9	$>10^{14}$	50 µm	1 - 10
POROS™ CaptureSelect™ AAV8	$>10^{13}$	50 µm	1 - 10

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Figure 1A

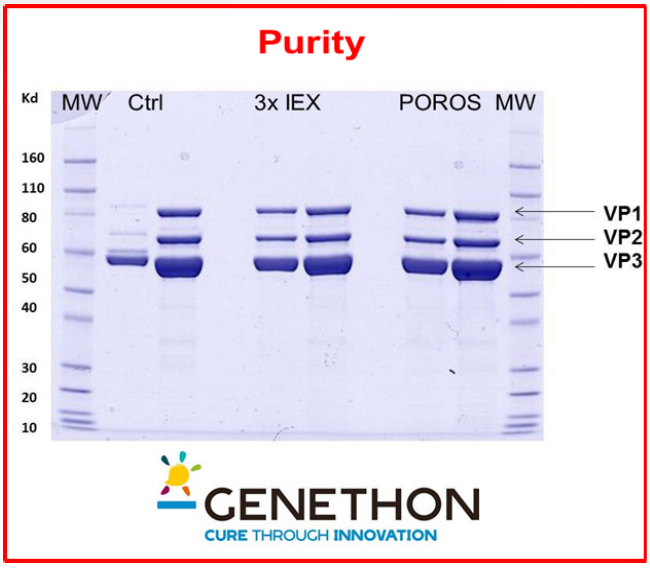

Figure 1B

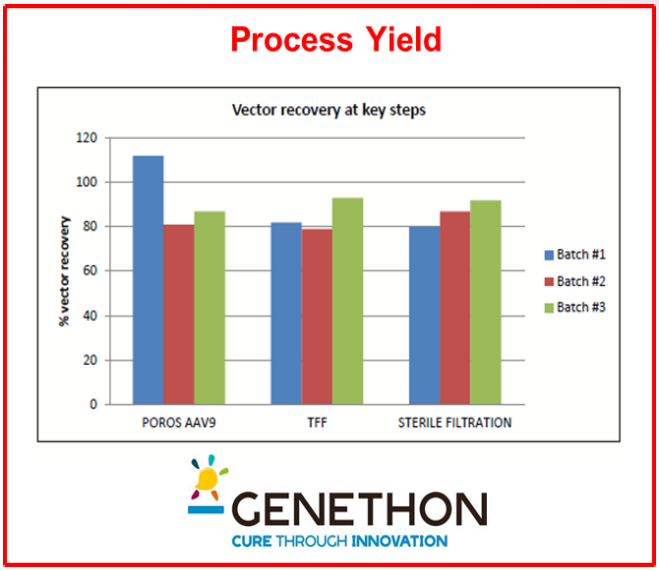

Figure 1A shows SDS-PAGE comparing purity of AAV9 viral vector, purified by two downstream processing methods: one utilizing 3 IEX steps and the other POROS CaptureSelect AAV9 resin as a simple 1 step capture process. The data shows the purity profile of viral vector AAV9 is equivalent when comparing both downstream proccessing approaches. The gel also reveals similar purity and the capsid viral protein (VP) topology for viral vector AAV9 is confirmed showing the bands corresponding to the viral structural proteins VP1, VP2, and VP3.

Figure 1B represents vector recovery data. Three different AAV9 batches were produced to assess reproducibility of the process. The data shows ≥ 80% vector recovery for all three AAV9 batches at each critical step of Genethon's downstream process.

Ordering information

Volume (mL)	POROS CaptureSelect AAV8 resin	POROS CaptureSelect AAV9 resin
10 mL	A30789	A27354
25 mL	A30790	A27353
50 mL	A30791	A27356
250 mL	A30792	A27355
1,000 mL	A30793	A27359
5,000 mL	A30794	A27358
10,000 mL	A30795	A27357