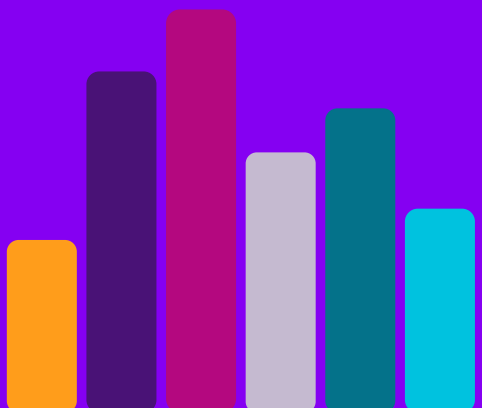
teknova: AAV•Tek™ Solutions

See the data behind the AAV Stabilizer:



Significant Cumulative Benefits Throughout Your Workflow

The table below shows the beneficial effects of incorporating the AAV Stabilizer into your AAV purification workflow. Our research demonstrates that the addition of this formulation provides a significant cumulative benefit of up to a 50% increase in overall yield, with an average 16% reduction in turbidity, 15% reduction in membrane pressure, 23% reduction in aggregation, 40% increase in recovery, and a 20% increase in infectivity.

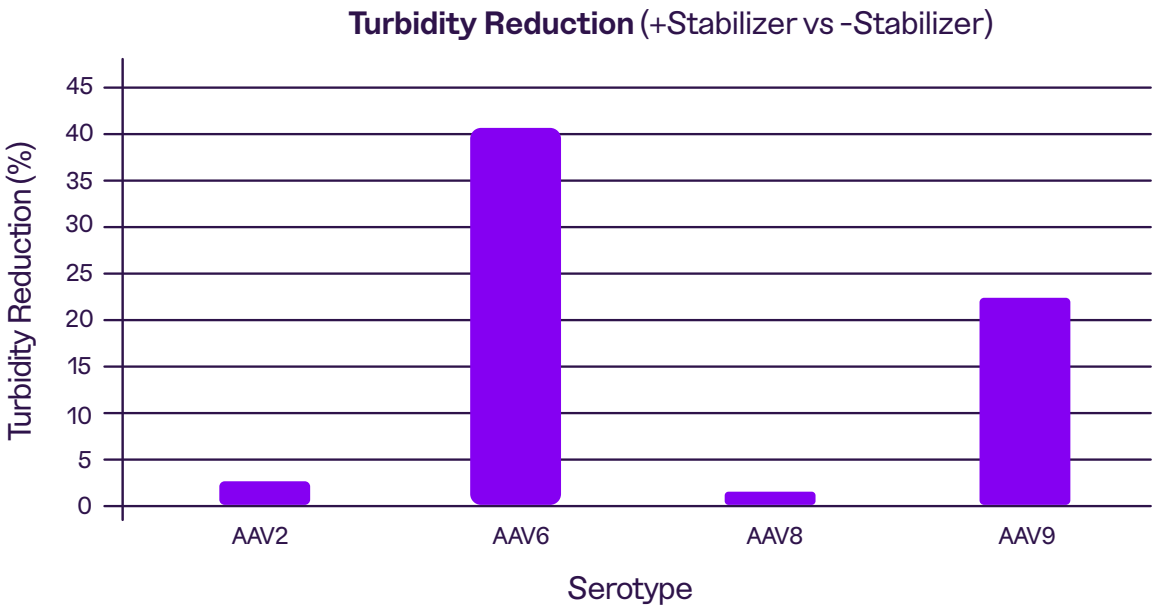
Workflow Step	Parameter Tested	AAV2	AAV6	AAV8	AAV9
Filtration	Turbidity reduction	+	+++	+	++
	Pressure reduction	+++	+	+++	+
	Recovery improvement	+	+	+	++
Affinity Chromatography	Aggregation reduction	+++	++	+++	+
	Recovery improvement	+	+++	+	+++
Affinity Product Filtration	Aggregation reduction	+++	++	+++	+
	Recovery improvement	+++	+++	+++	+
	Infectivity improvement	+	++	+++	++

\+ Mild improvement (≤15%) ++ Moderate improvement (15% < Change < 25%) +++ Large improvement (≥25%)

SCROLL TO SEE MORE DATA

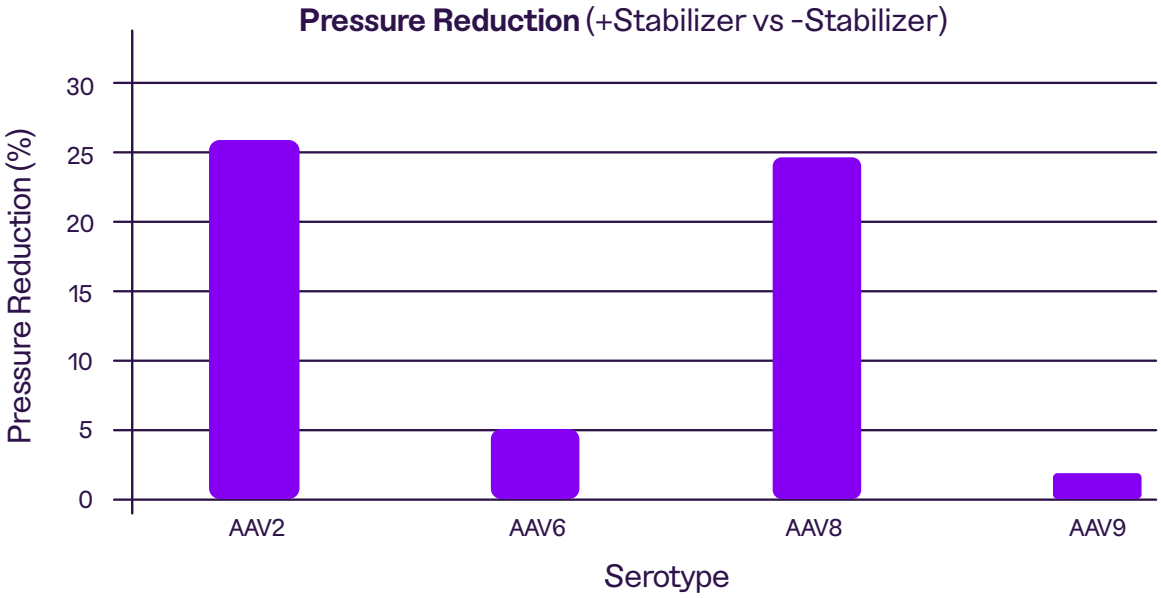
An Average of a 16% Reduction in Turbidity

Turbidity reduction was measured by comparing the turbidity of the filtrates from different filter trains that were challenged with different AAV serotypes treated with and without the AAV Stabilizer during the filtration of harvest lysate. Serotypes AAV6 and AAV9 showed the highest turbidity reductions during clarification.



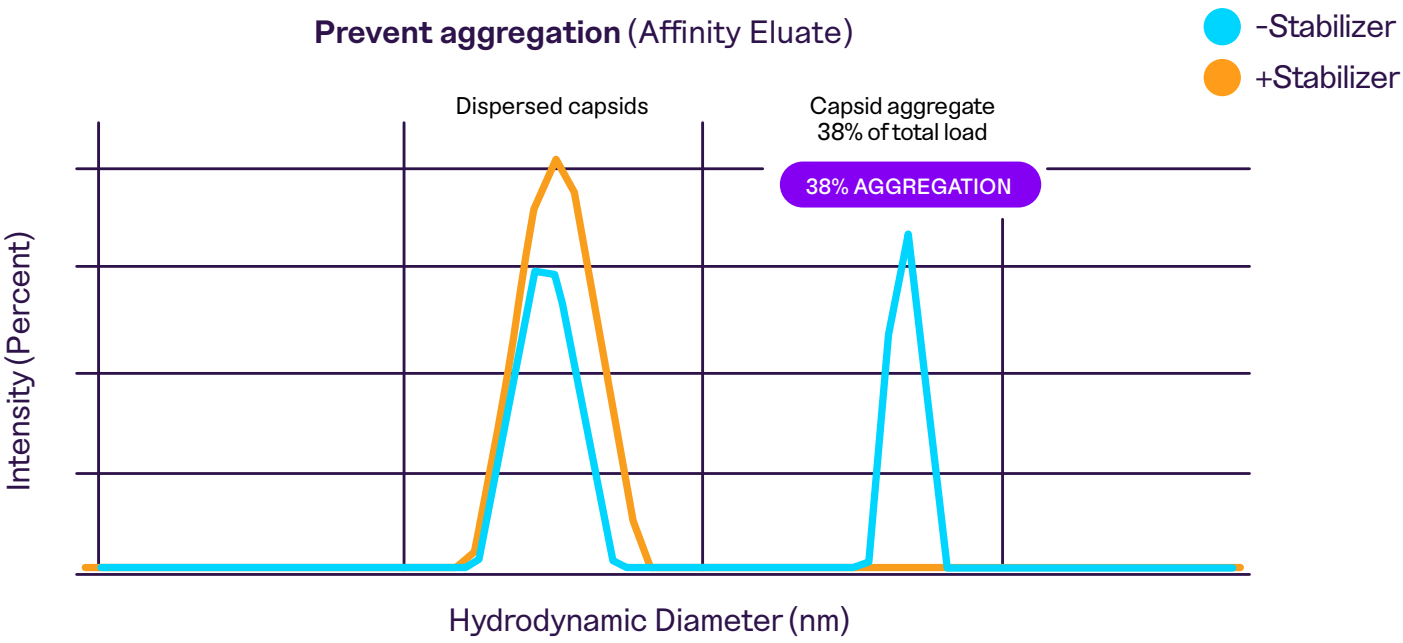
An Average of a 15% Reduction in Pressure

Pressure reduction was measured by comparing the average pressure of filters being challenged with different AAV serotypes treated with and without the AAV Stabilizer during the filtration of harvest lysate. Serotypes AAV2 and AAV8 showed the highest average pressure reductions during clarification.

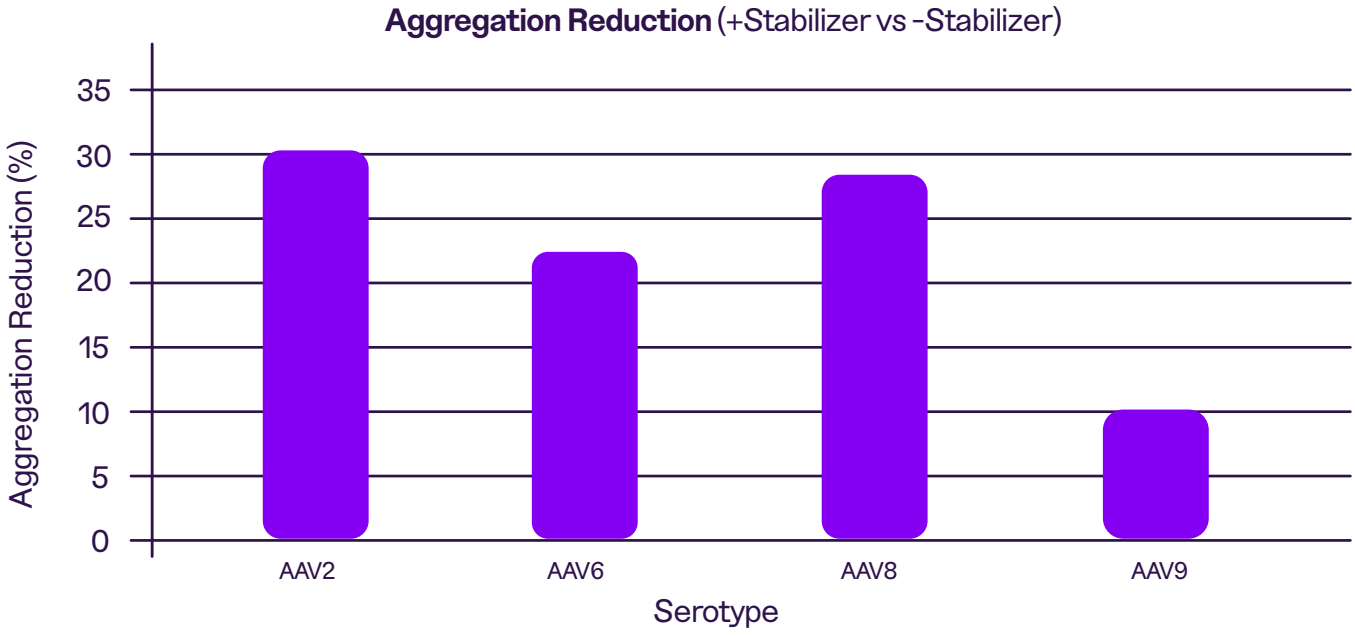


An Average of a 23% Reduction in Aggregation

The components in the AAV Stabilizer facilitate AAV monodispersion by preventing non-specific binding to surfaces and minimizing interfacial forces. It can both prevent and reverse the aggregation of your AAV particles.



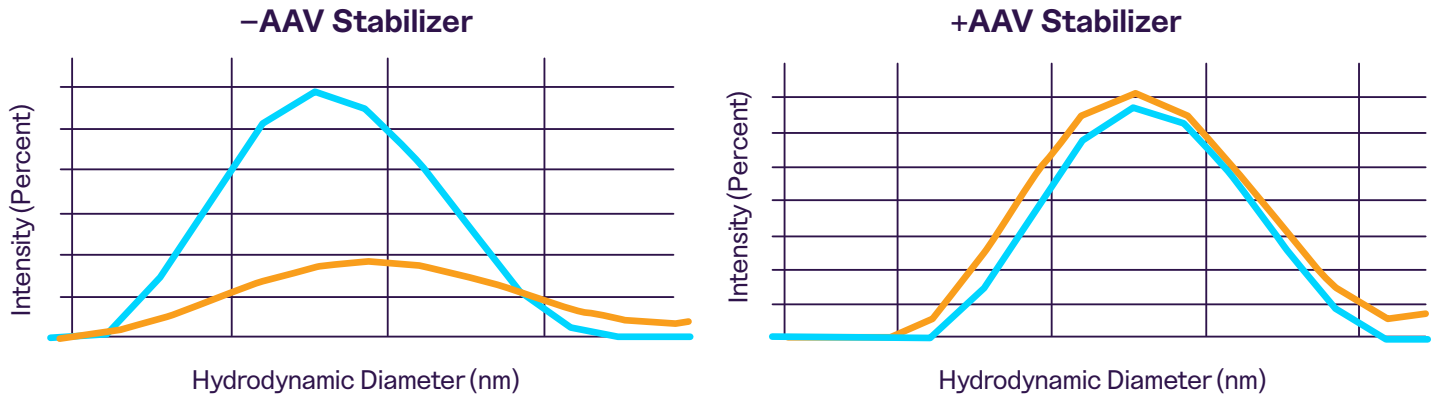
Dynamic Light Scattering (DLS) overlay of AAV2 containing affinity eluate (-AAV Stabilizer; orange) and AAV2 containing affinity eluate (+AAV Stabilizer; blue). Affinity eluate produced without the AAV Stabilizer showed 38% aggregation. Affinity eluate produced with the AAV Stabilizer showed no aggregation.



Aggregation reduction was measured by comparing the aggregation levels by DLS of affinity to filtrates of the eluates from different AAV serotypes treated with and without the AAV Stabilizer. Serotypes AAV2 and AAV8 showed the highest reduction of aggregation.

Up to 40% Increase in Recovery

Increased recovery was observed during and after the affinity chromatography step in the presence of the AAV Stabilizer. This is shown below using DLS data across multiple tested serotypes.

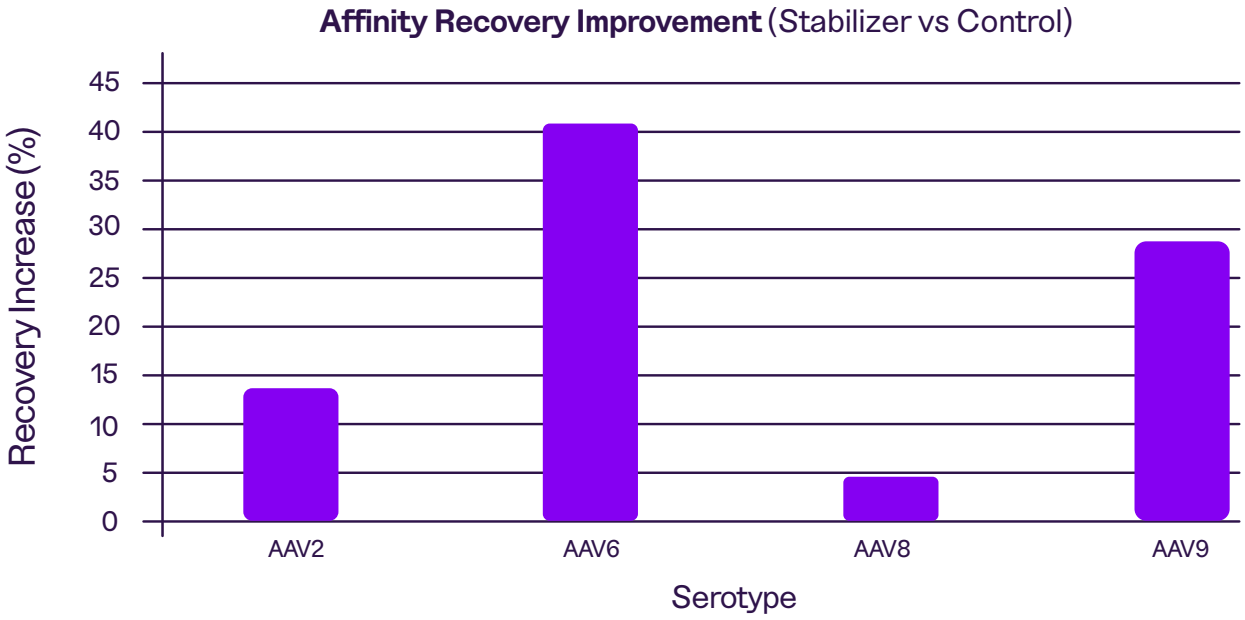


Left: Dynamic Light Scattering (DLS) overlay of AAV2 containing affinity eluate that was not treated with the AAV Stabilizer, showing a significant loss occurring during filtration (orange).

Right: Dynamic Light Scattering (DLS) overlay of AAV2 containing affinity eluate that was treated with the AAV Stabilizer, showing no loss of AAV particles during filtration.

Affinity Eluate

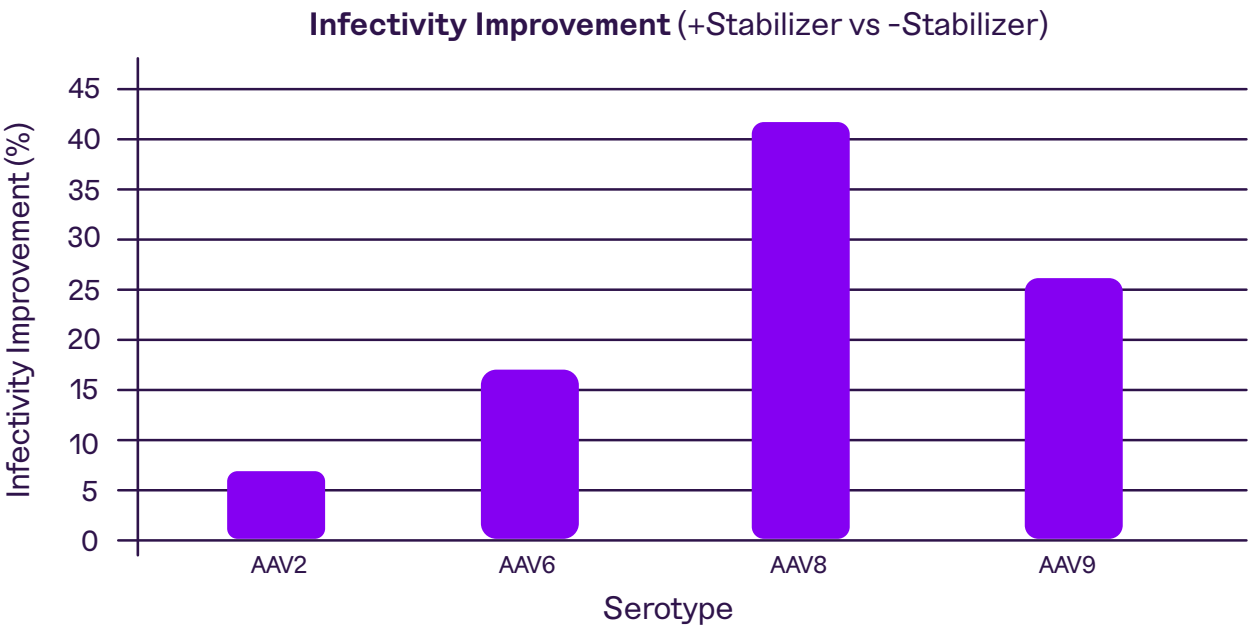
Eluate Filtrate



Affinity recovery improvement was measured by comparing the recovery of different AAV serotypes treated with and without the AAV Stabilizer during affinity chromatography. Serotypes AAV6 and AAV9 showed the highest average recovery increases.

An Average of a 20% Improvement in Infectivity

Infectivity improvement was measured by comparing the infectivity recovery of transduction units from lysate to affinity eluate filtrate from processes using different AAV serotypes treated with and without the AAV Stabilizer. Serotypes AAV8 and AAV9 showed the highest infectivity improvements.



How it works:

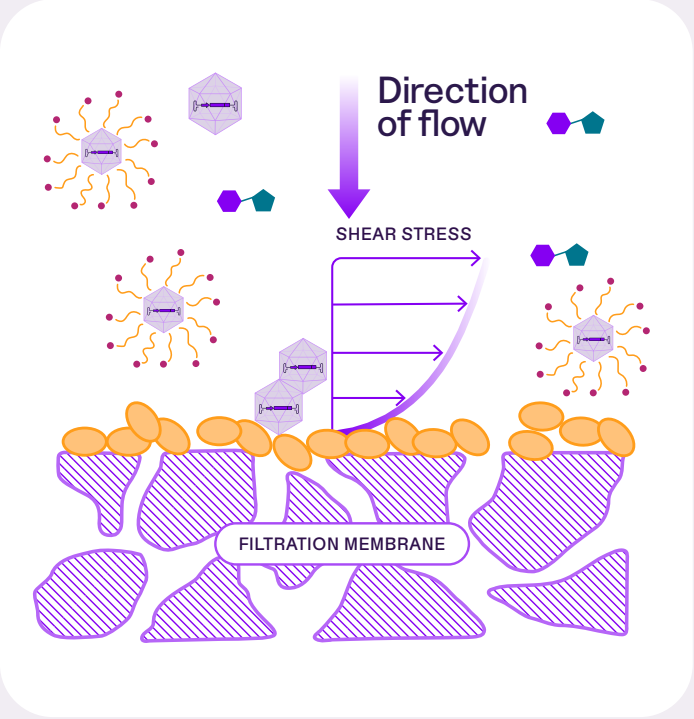
The special properties of poloxamer and sucrose help stabilize AAV particles during filtration.

Aggregation of proteins at the membrane surface causes excessive turbulent flow and shear forces. These forces act tangentially to the membrane and can disrupt the structure of AAV.

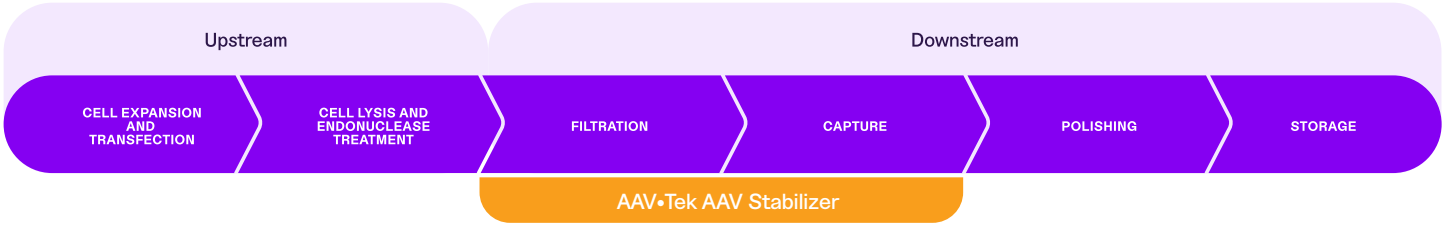
Poloxamer shields AAV from non-specifically binding to tubing material and filter membranes, allowing the particles to flow as monodispersed particles.

Sucrose acts as a highly viscous amorphous environment on the surface of AAV to provide conformational stability and reduce capsid rupture.

Too high a concentration of these excipients could adversely affect the binding of AAV to resins, or the enhanced viscosity could affect filtration. Through extensive screening, we identified an optimal formulation that works well for filtration and chromatography.



Use the AAV Stabilizer throughout your AAV workflow



AAV•Tek™ AAV Stabilizer

Get up to a 50% increase in yield with this multi-purpose buffer that protects the integrity of your AAV capsids across your workflow.

Order your AAV Stabilizer at teknova.com/aav-stabilizer

AAV Stabilizer 500 mL
Product ID: 20752

AAV Stabilizer 100 mL
Product ID: 20749

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Questions? We're here to help.

Get in touch at info@teknova.com or 1.800.209.4488