TESSA® AAV Production Technology for Scalable, High-Quality Manufacturing

Minaris Advanced Therapies

Flyer

Minaris delivers end-to-end viral vector solutions designed to accelerate the development of advanced therapies. With deep expertise across AAV, lentivirus, retrovirus, adenovirus, and other vector platforms, our global team applies proprietary production technologies to achieve higher yields, greater purity, and reliable scalability, helping to de-risk a product's path to patients.

At the center of our AAV offering is **TESSA® (Tetracycline-Enabled Self-Silencing Adenovirus)**—a plasmid-free production technology that overcomes the yield, cost, and quality limitations of traditional AAV manufacturing. From early-stage development through cGMP manufacturing scalable to 2,000L and beyond, TESSA provides a seamless, commercial-ready pathway for scalable, high-quality AAV production.

Why the Right AAV Production System Matters

- Ensure consistent product quality across scales and batch to batch
- Enable cost-effective clinical supply without reliance on expensive plasmids
- Reduce risk through early adoption of scalable, regulatory-ready processes
- Deliver higher-quality vectors that improve patient safety and therapeutic performance
- Enable high yields across a range of serotypes

TESSA AAV Production Technology at a Glance

Up to 30x higher AAV yields compared with plasmid-based triple transfection

Helper-virus free system results in no detectable helper adenovirus in final drug substance[1]

Produces up to 80% full capsids pre-enrichment, reducing downstream purification burden and achieving high full enrichment in the final product

>85% reduction in commercial-scale COGs demonstrated

Demonstrated scalability to 200L with a clear path to **2,000L+ commercial manufacturing**

Two production systems available: TESSA Pro for programs prioritizing speed, and TESSA Duo for programs prioritizing customization

Plasmid-free production, eliminating transfection-related variability.

Licensed by Janssen (Johnson & Johnson) for gene therapy programs

TESSA Differentiators

True Commercial Scalability

Built on suspension HEK293 platforms and bioreactor-based processes, TESSA supports direct scale-up from development to commercial manufacturing without platform changes.

High-Yield, High-Quality Vector Production

Self-silencing helper biology enables step-change improvements in productivity while enriching for properly assembled, full AAV capsids.

Cleaner Product Profiles

TESSA prevents late adenoviral gene expression, resulting in virtually no contaminating adenovirus vector and significantly reduced host cell DNA and residual impurities.[1]

Lower Cost and Reduced Risk

By eliminating plasmid production and transient transfection, TESSA simplifies operations, reduces variability, and enables earlier adoption of commercial-ready processes.

Triple Transfection vs. TESSA®

	Triple Transfection	TESSA®
Production Method	Three plasmids introduced via transient transfection	Engineered, self-silencing adenoviral vector system with no plasmid transfection in both TESSA Pro and Duo
Yield and Productivity	Low to moderate yields that limit practical scale	Up to 30x higher yields demonstrated across multiple programs
Full Capsid Content	~40% full capsids before enrichment	Up to 80% full capsids before enrichment
Scalability	Difficult to scale consistently beyond hundreds of liters	Proven at 200L with a direct pathway to 2,000L+
Cost and Quality Risk	High COGs, plasmid supply burden, and transfection reaction variability	Lower COGs, simplified supply chain, improved process control, and cleaner safety profile

Pioneering a New Standard for AAV Manufacturing

By combining transfection-free scalability, superior product quality, and dramatic cost reduction, TESSA® enables gene therapy developers to advance with confidence—from early development through commercial supply.

Partner with Minaris to redefine what's possible in AAV manufacturing.

[1]Su, W., Patrício, M.I., Duffy, M.R., Krakowiak, J.M., Seymour, L.W., & Cawood, R. "Self-attenuating adenovirus enables production of recombinant adeno-associated virus for high manufacturing yield without contamination." Nature Communications. 2022.

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