

Novel Dual-Plasmid Transfection System

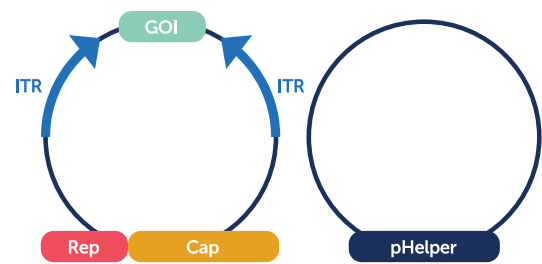



The Dual-Plasmid system resolves some of the key manufacturing challenges faced by AAV developers

Our team of experts at Oxford Biomedica have developed a proprietary 'plug and play' Dual-Plasmid system for transient transfection for effective AAV-based gene therapies resulting in:

- ✓ Higher titre
- ✓ High product quality
- ✓ Proven scalability

Oxford Biomedica's Dual Plasmid System



 Our novel Dual-Plasmid system optimizes performance and quality

Continuously exploring opportunities for titre improvement

Today
Novel Dual Plasmid transfection

Up to
E15 vg/L

2020
Optimized plasmid/construct design

Up to
E14 vg/L

2019
Improved GMP execution with internal MFG facility






Up to
E13 vg/L

2018
Triple transfection reference

Up to
E13 vg/L

Titre is construct and serotype dependent

Advantages of our Dual-Plasmid system include:

 Increased yield and productivity Titers up to 1E15 vg/L	 Improved capsid ratio Improved full vector packaging > 50% full capsids out of the bioreactor and 90% of full capsid in final product	 Just two plasmids Uses only two plasmids rather than three, reducing costs	 Broadly applicable Applicable to any GOI and AAV serotype or capsid variant	 Easy to switch No process change is required when switching from triple to Dual-Plasmid
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An optimised configuration to outperform traditional triple-plasmid system

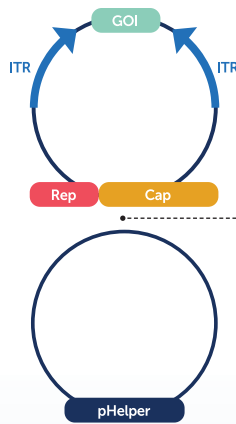
Traditional triple-plasmid system

GOI, Helper and Rep Cap



Oxford Biomedica Dual-Plasmid system

GOI + Rep Cap and Helper



Dual-Plasmid System delivers

Same sequence, different configuration

Performance and quality

Consistency, comparability and scalability

Client benefits

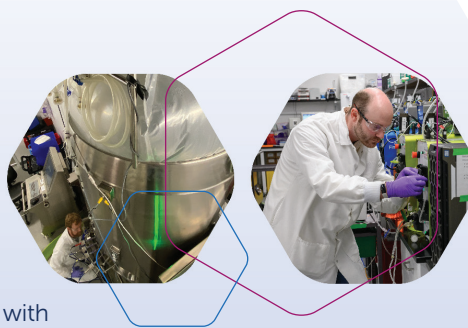
Improved downstream performance

High productivity and improved safety profile

Reliable technology proven in GMP manufacturing



- ✓ No change in RepCap and GOI (Gene of Interest) DNA sequences, and the pHelper plasmid is the same: the conversion from the triple-plasmid to the Dual-Plasmid system is straightforward
- ✓ The Dual-Plasmid system, together with our proprietary transfection process increases bioreactor vg titer up to 10-fold over current industry standard. The process has been successfully scaled up to 2,000L and has been proven to deliver up to 1.5E17 total vgs at 500L scale





We are a quality and innovation-led CDMO with over 25 years of experience, committed to helping our clients deliver cell and gene therapies that transform patients' lives.

We offer end-to-end capabilities, from plasmid design and optimisation, to clinical and commercial GMP manufacturing, accompanied by robust control systems, analytical methods and deep regulatory knowledge.

Let's do something life-changing together

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