

LENTIBLAST™ PREMIUM SUPERIOR GRADE

HIGH-QUALITY VIRAL ENHANCER

**FOR PRECLINICAL & EARLY PHASE
CLINICAL TRIALS**



OZ BIOSCIENCES
The art of delivery systems

LENTIBLAST PREMIUM SUPERIOR GRADE

FOR GENE & CELL THERAPY



LentiBlast Premium Superior Grade is the ideal reagent to enhance lentiviral infection and transduction in any type of cells, adherent or in suspension, primary or cell lines.

It is identical in synthesis and formulation to LentiBlast Premium Transduction Enhancer **with advanced quality controls**. It is designed for use in **preclinical and early phase clinical trials**.

Ideal to Increase R&D, Preclinical and Clinical Transduction Protocols for Ex-vivo Gene Therapies & CAR-T Cell Therapies.

Its **patented chemical composition** allows to simultaneously neutralize electrostatic repulsions between membrane and viral particles and to enhance viral fusion with cell membrane. Thanks to this favorable “**membrane permeable effect**”, **LentiBlast Premium SG** limits any transmembrane potential changes and thus facilitates virus entry.

FEATURES & BENEFITS



Efficiency

Increases lentivirus infection efficiency for hard-to-transduce cells: The right solution for Stem cells, Primary T cells.



Quality

Extra quality controls performed on every batch throughout the manufacturing process to meet the quality demands of Gene & Cell Therapy.



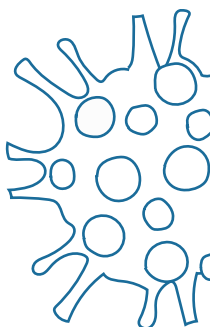
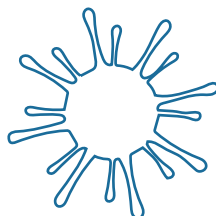
Performance

Overcomes obstacles & achieves high transduction (cell density, passage number, lentivirus purity, MOI, ...).



Cost-effective

Reaches a high rate of transduction with a lower viral titer.



● LentiBlast Premium Superior Grade with Higher Quality Control Level

Quality Controls		LentiBlast Premium	LentiBlast Premium SG
Sterility	Thioglycolate assay. Absence of fungal and bacterial contamination for 15 days.	✓	✓
Biological Activity	Lentiviral transduction enhancement after 3 days on KG1a CD34+ cell line. Acceptance specification >80%.	✓	✓
Chemical Characterization	Identification of signature peaks by ¹ H and ¹³ C NMR.		✓
Purity	Single peak observed in SEC chromatogram.		✓
Mycoplasma	Absence of Mycoplasma according to USP <63>*		✓
Endotoxin	Presence of low levels of bacterial endotoxins as defined by USP <85>**.		✓

*USP <63> Mycoplasma Tests: a new regulation for mycoplasma testing.

**USP <85> Bacterial Endotoxins Test.



● LentiBlast Premium Superior Grade Outperforms Competitors

- Compared to competitors, LentiBlast Premium induces the most higher fold increase in infection.

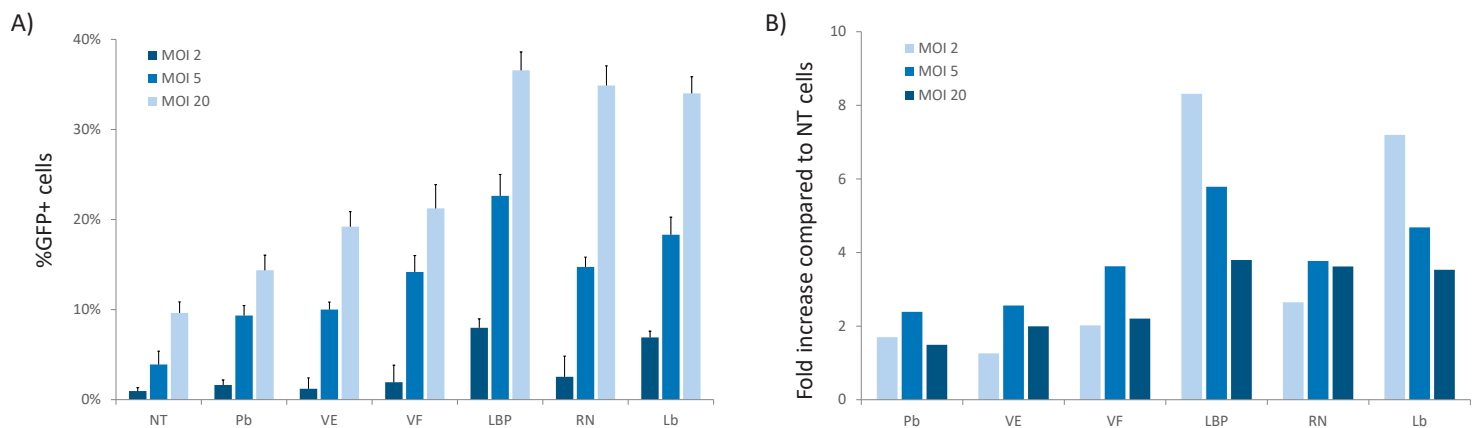


Figure 1. Comparison of transduction enhancers of CD34+ cell line with lentiviral vector. KG1a were infected with GFP encoding lentivirus at M.O.I. of 2, 5 and 20 in presence or not of transduction enhancers. (A) Percentage of CD34+ cells was measured 72H after by flow cytometry and fold increase in transduction was calculated in comparison to non treated cells (B). **NT**, non treated infected cells; **Pb**, polybrene; **VE**, ViralEntry; **VF**, Vectofusin; **LBP**, LentiBlast Premium; **RN**, RetroNectin; **Lb**, LentiBOOST. Results are given as the mean of samples (n=3) ± SD.



● LentiBlast Premium Superior Grade is Non Toxic

- LentiBlast Premium preserves the viability of stem cells infected with lentivirus.

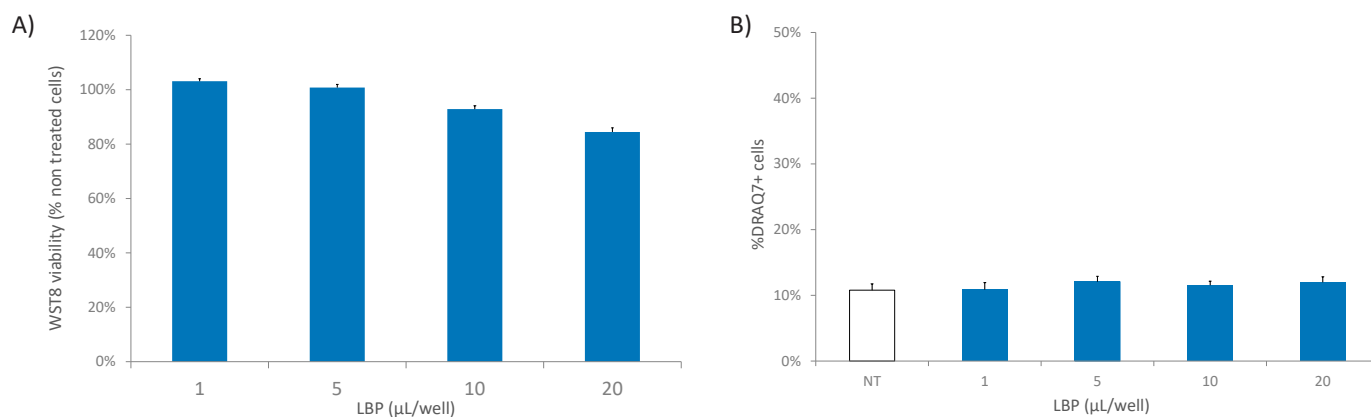
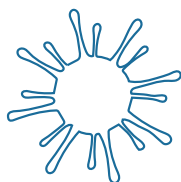
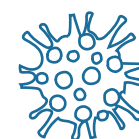


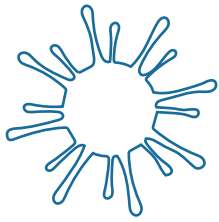
Figure 2. KG1a were infected with RFP-encoding Lentivirus using a M.O.I. of 5 with ranging doses of LentiBlast Premium (LBP). 72 H after, viability of KG1a infected in presence of LBP was assessed by WST-8 assay and represented as a % of infected cells without any treatment (A) and late apoptosis was monitored using DRAQ7 DNA binding dye staining (B).



SUCCEFFULY TESTED & PUBLISHED



Cell Name	Molecule Vector	Reference
Bone Marrow Stem Cells (BMSC)	Lentivirus	Liu, Zhi, et al. <i>bioRxiv</i> (2021).
Bone Marrow Derived Macrophages (BMDM)	Lentivirus	Shen, Zeyang, et al. <i>bioRxiv</i> (2021).
	Retrovirus/Lentivirus	Fonseca, Gregory J., et al. <i>Nature Communications</i> (2019).
T Lymphocytes	Lentivirus	Maria, Naomi S. Sta, et al. <i>Scientific Reports</i> (2021).
		Zheng, Long, et al. <i>Clinical Cancer Research</i> (2020).
		Zheng, Long, et al. <i>International Journal of Molecular Sciences</i> (2017).
T Lymphocytes CD34+	Lentivirus	Holdreith, Nicholas, et al. <i>Blood Advances</i> (2022).
		Rousset, Francis, et al. <i>Molecular Therapy-Nucleic Acids</i> (2019).
T Lymphocytes CD4+	Lentivirus	Claireaux, Mathieu, et al. <i>Nature Communications</i> (2022).
	Retrovirus/Lentivirus	Benati, Daniela, et al. <i>The Journal of Clinical Investigation</i> (2016).
THP-1	Lentivirus	Rogers, Bryan M., et al. <i>Journal of Experimental Medicine</i> (2021).
PrEC	Retrovirus/Lentivirus	Nassour, Joe, et al. <i>Nature</i> (2019).
Cardiomyocytes	Lentivirus	Singh, Bhairab N., et al. <i>Nature Communications</i> (2018).
hiPSC	Retrovirus/Lentivirus	Ryan, Sean K., et al. <i>STAR Protocols</i> (2020).
Ex vivo aorta-gonad-mesonephros (AGM)	Lentivirus	Ma, Liyang, et al. <i>Science Advances</i> (2022).

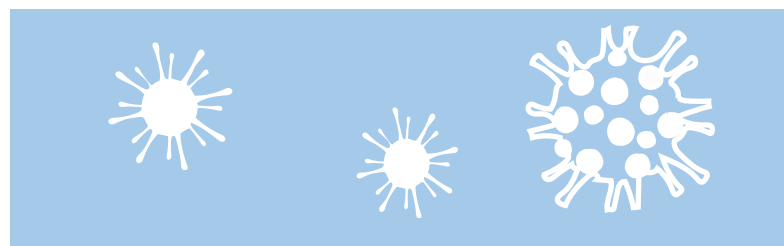
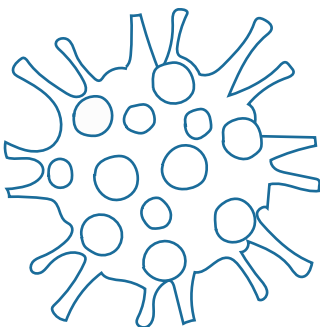


LENTIBLAST PREMIUM RANGE



Intended Use	Research Use Only (RUO)	Preclinical & Early Phase Clinical Trials***	Clinical Trials & Commercialization
Product Name	LentiBlast Premium	LentiBlast Premium SG	Upcoming
Composition	Ready to use, chemically defined & animal origin free		
Catalog Number	LBPX500 LBPX1500	LBSG1500 LBSG5000	
Packaging (vials)	500 µL 1500 µL	1500 µL 5000 µL	
Storage	- 20°C	- 20°C	
Shipping Conditions	Room Temperature	Room Temperature	
Fill & Finish Manufacturing Process	Sterile Filtration	Sterile Filtration	
Quality Controls (QCs)	Standard QCs (Potency & Safety) - Transduction Efficiency - Sterility	Extended QCs (Identity, Potency, Purity & Safety) - Transduction Efficiency - Sterility - Bacterial endotoxin detection - Mycoplasma detection - Chemical characterization - Purity	
Available Documentation	- Certificate of Analysis - Material Safety Data Sheet - Protocol of use	- Certificate of Analysis - Material Safety Data Sheet - Protocol of Use - Quality Agreement - Certificate of Origin - Safety Statement (animal free, BSE, no toxic, no hazardous compounds, compliance TSCA, Product Use Limitations)	
Audit	According to ISO 9001 2015	According to ISO 9001 2015	

***not intended for administration to humans.





ADDITIONAL PRODUCTS

• For Viral Transduction Enhancement



- ViroMag*
- ViroMag CRISPR*
- ViroMICST**



- LentiBlast Premium
- ViroMag RL*
- ViroMag Stem*
- ViroMICST Stem**



- AdenoMag*

• For Viral Production



- HYVIR*

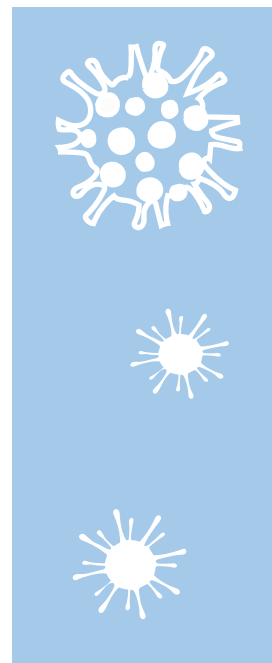
• For Virus Capture, Concentration & Storage



- Mag4C-LV*
- Viro-PEG



- Mag4C-AD*



*Requires a magnetic plate.

**Requires magnetic cell separation systems (not provided by OZ Biosciences).



OZ BIOSCIENCES
The art of delivery systems

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rev 04/2025