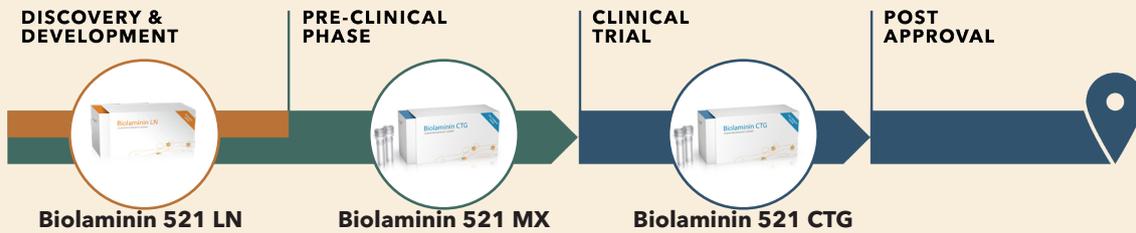


Biolaminin 521 Cell Culture Substrates

Support scientists - from discovery all the way to clinic

The Biolaminin® 521 products are the only full-length, human, recombinant laminin 521 substrates on the market. Biolaminin 521 CTG is the world's first cell therapy grade laminin product and can support scientists throughout their cell therapy development process. As a complement to the CTG product, Biolaminin 521 MX has been developed, facilitating a seamless transition from discovery into clinical settings.



Scientists who are at an early research stage will enjoy a seamless journey from basic research to post-approval therapy and production – starting with Biolaminin 521 MX (MX521), upgrading to Biolaminin 521 CTG (CTG521) for the clinical development phases.

	Biolaminin 521 LN	Biolaminin 521 MX	Biolaminin 521 CTG
Product name	Biolaminin 521 LN	Biolaminin 521 MX	Biolaminin 521 CTG
Product code	LN521	MX521	CT521
Product claims	Research grade	Research grade	Cell therapy grade
Declaration	For research use only	For research use only	For research use or manufacturing of cell, gene, or tissue-based products**
Product specifications	Human recombinant laminin 521. A trimeric protein of total 774 kDa (400 kDa, 196 kDa, 178 kDa, respectively)	Human recombinant laminin 521. A trimeric protein of total 774 kDa (400 kDa, 196 kDa, 178 kDa, respectively)	Human recombinant laminin 521. A trimeric protein of total 774 kDa (400 kDa, 196 kDa, 178 kDa, respectively)
Manufacturing	Human, adherent cell line	Human, suspension cell line	Human, suspension cell line
Animal origin-free¹	Primary level*	Secondary level	Secondary level
Quality control	<ul style="list-style-type: none"> • Appearance (clear colorless solution) • Concentration 0.10 mg/mL • Authenticity • Protein purity • Mycoplasma (PCR) • Endotoxin <50 EU/mL (EndoLISA) • Potency 	<ul style="list-style-type: none"> • Appearance (clear colorless solution) • Concentration 0.10 mg/mL • Authenticity • Protein purity • Mycoplasma (PCR) • Endotoxin <10 EU/mL (EndoLISA) • Potency 	<ul style="list-style-type: none"> • Appearance (clear colorless solution) • Concentration 0.10 mg/mL • Authenticity • Protein purity • Mycoplasma (qPCR)[‡] • Endotoxin <10 I.U./mL (LAL Kinetic)[‡] • Potency • Retroviral RT activity (Q-PERT)[‡] • Virus testing[‡]
Documentation	CoA & Animal Origin Free statement (AOF)	CoA & Animal Origin Free statement (AOF)	CoA & AOF statement
Formulation	PBS buffered saline, 10% glycerol, 0.02% NaN ₃ , pH 7.2	20mM HEPES, 0.25M NaCl, 10% glycerol, pH 7.5	20mM HEPES, 0.25M NaCl, 10% glycerol, pH 7.5
Storage & shipping	Shipped on dry ice. Store at -20o C to -80o C	Shipped on dry ice. Store at -20° C to -80° C	Shipped on dry ice. Store at -20° C to -80° C

¹ ISCT guidance document "ISCT Animal-Free Origin Survey Results-Summary".

* FBS used in early seeding phase. Due to the dilution effect in the production process, the theoretical proportion of serum left in the final product is <0.2 PPM (parts/million). This value is calculated under the assumption that no serum is lost during the purification process, hence the actual concentration is likely to be considerably lower.

[‡] According to European and US Pharmacopoeia standards.

** Manufacturing of commercial products need express written permission of BioLamina.