Product Details

Laminin 521 offers a defined surface for feeder-free culture of human pluripotent stem cells (PSCs). It maintains normal growth and stemness in ESC, iPSC, and MSC lines. Laminin 521 supports PSC growth for over 10 passages without karyotypic abnormalities and retains differentiation ability into all three germ layers.
This product is specifically designed for academic research applications and is an alternative to basement membrane extract at No Extra Cost.

RG Laminin 521 vs. Basement Membrane Extract
Defined matrix and good lot-to-lot consistency;
Easy to handle (not to handle in 4℃);
Support homogenous monolayer and faster growth;
Avoid cell differentiation;
Cost-effective, comparable pricing to Basement Membrane Extract or Vitronectin.

RG Laminin 521 vs. Vitronectin
Better cell survival in single cell passaging and colony formation;
Better cell adhesion ability during cardiac cell differentiation.

Key parameter

Purity (SDS PAGE)	> 95%
Mycoplasma Test	Negative
Sterility Test	Negative
Integrin Binding Assay	0.5 nM < KD < 5 nM
Endotoxin Test	< 0.01 EU per μg

Reconstitution

Please see Certificate of Analysis for specific instructions.

For best performance, we strongly recommend you to follow the reconstitution protocol provided in the CoA.

Formulation

Lyophilized from 0.22 μm filtered solution in PBS, pH7.4 with trehalose as protectant.

Contact us for customized product form or formulation.

Storage

For long term storage, the product should be stored at lyophilized state at -20°C or lower.

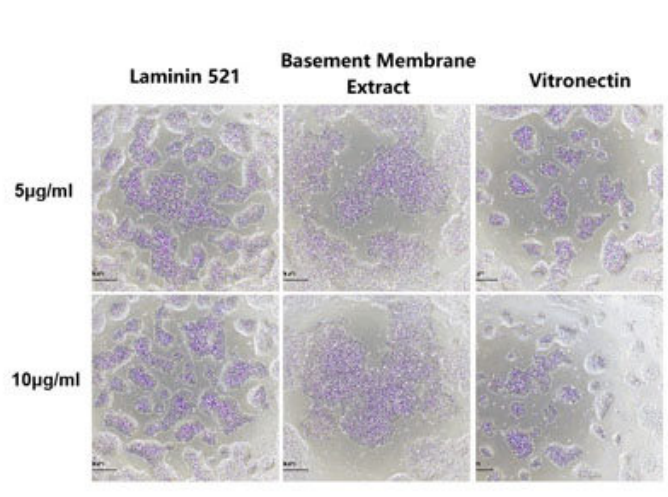
Please avoid repeated freeze-thaw cycles.

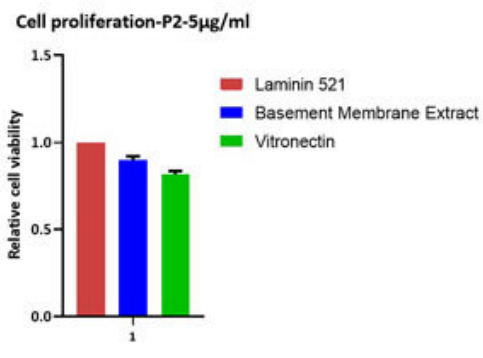
This product is stable after storage at:

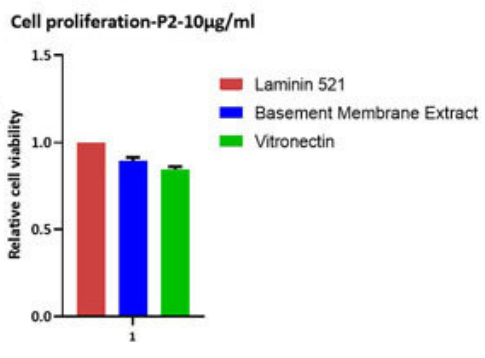
- -20°C to -70°C for 24 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

Bioactivity-Stem Cell Culture

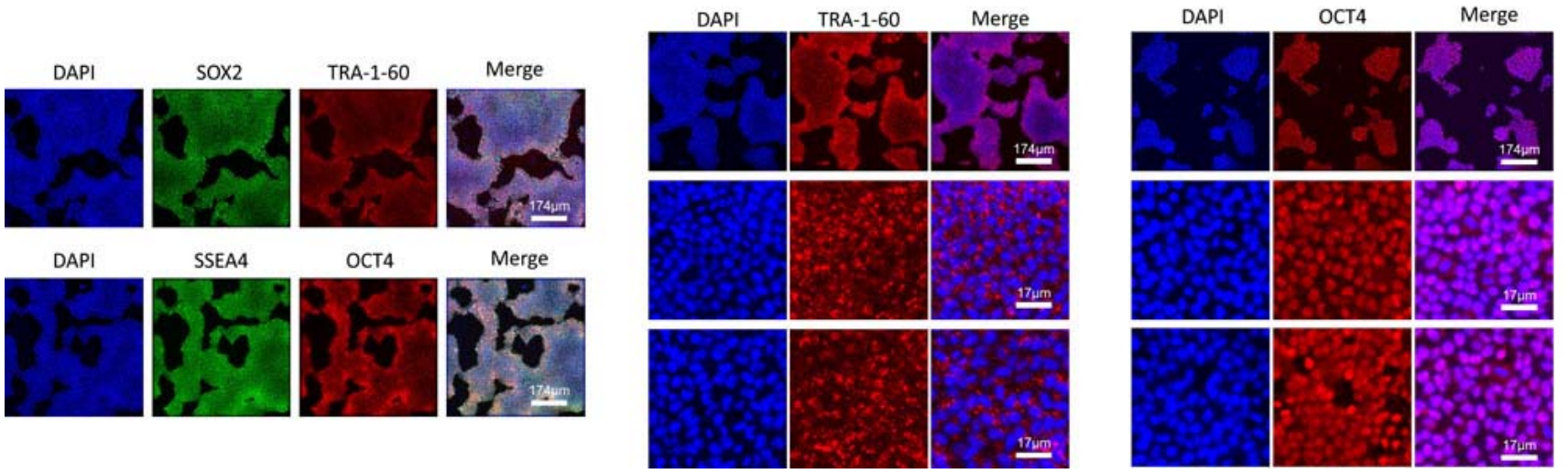
View Protocol



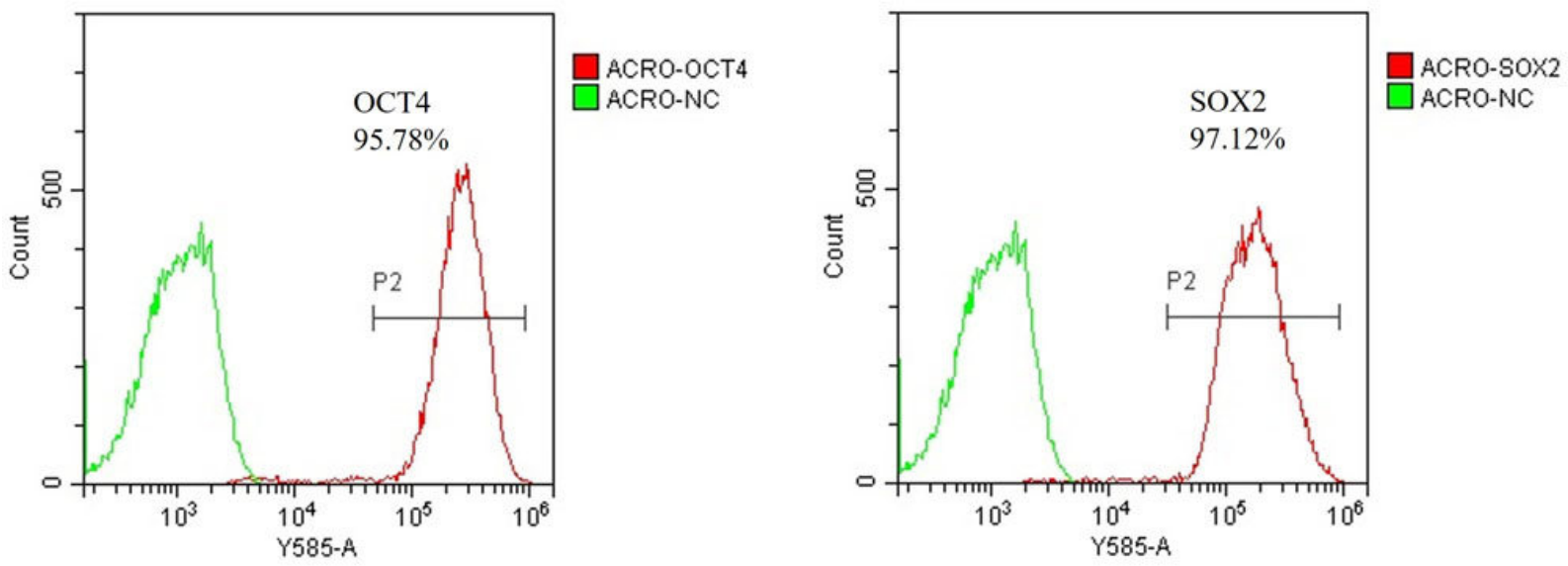




The cell proliferation ability of Human Laminin 521 Protein, Research Grade (Cat. No. LA5-H5215) measured by the CTG method is better than Basement Membrane Extract (Company C) and Vitronectin even in different working concentrations (5 μg/mL, 10 μg/mL).



Human Laminin 521 Protein, Research Grade (Cat. No. LA5-H5215) could maintain the stemness of iPSC at least Passage 5. Immunofluorescent staining indicated that the iPSCs expressed high levels of pluripotency associated markers Sox2, TRA-1-60, SSEA4 and OCT4.

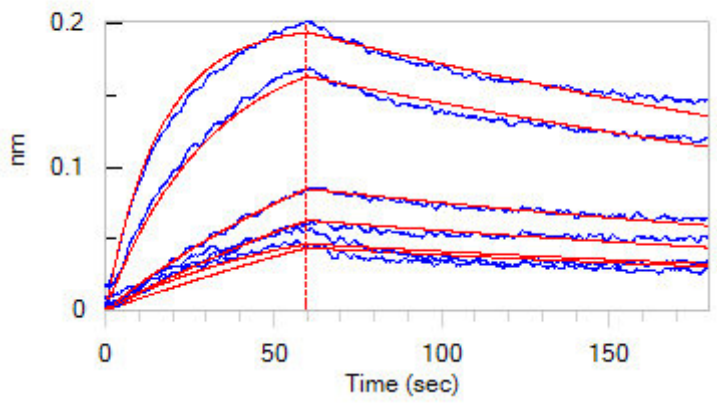


Human Laminin 521 Protein, Research Grade (Cat. No. LA5-H5215) could maintain the stemness of iPSC at least Passage 5. FACS data indicated that the iPSCs expressed high levels of pluripotency associated markers OCT4 and SOX2.

Karyotype (ISCN2013): 46, XX [20]

Normal karyotype (46, XX) was found in hiPSCs with Human Laminin 521 Protein, Research Grade (Cat. No. LA5-H5215) coating after 10 passages.

Bioactivity-BLI



Loaded Human ITGA6&ITGB1 Heterodimer Protein, His Tag&Tag Free (Cat. No. IT1-H52W7) on HIS1K Biosensor, can bind Human Laminin 521 Protein, Research Grade (Cat. No. LA5-H5215) with an affinity constant between 0.50 nM - 5.00 nM as determined in BLI assay (ForteBio Octet Red96e) (QC tested).

Clinical and Translational Updates