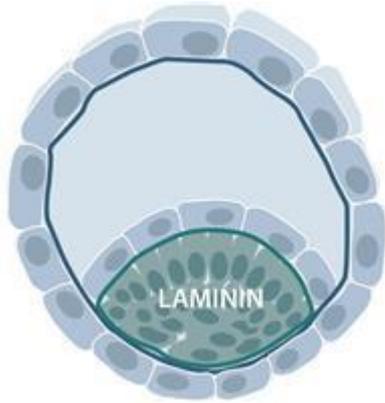


BIOLOGICAL RELEVANCE



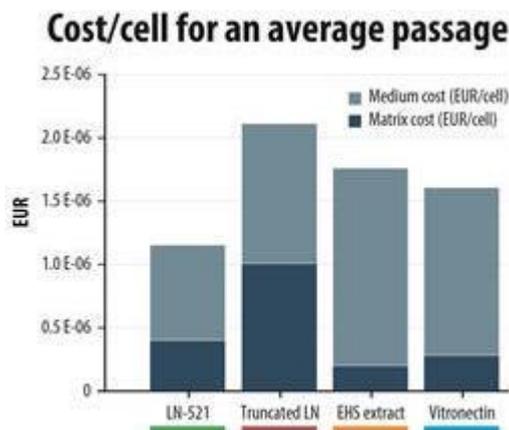
Laminin-521 (LN-521) is a key cell adhesion protein of the natural stem cell niche, expressed and secreted by hPSCs in the inner cell mass of the embryo. LN-521 recreates the biologically relevant milieu in vitro and therefore supports robust expansion of human ES and iPSC cells.



The single-cell split is easy, fast and forgiving, making anyone suitable to culture hPSCs. When using LN-521, your cell culture protocol can easily be made totally defined and xeno-free with your choice of culture medium and dissociation reagent. For reduced labor and cost, the LN-521 matrix supports weekend-free feeding.

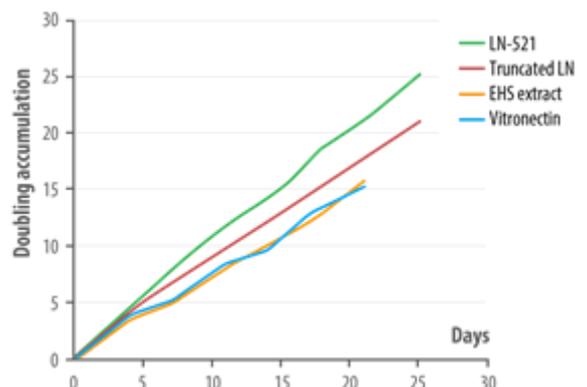
1. Coat plates with LN-521.
2. Wash the cells with PBS and add dissociation reagent of choice - incubate
3. Centrifuge the single-cell suspension and resuspend the pellet in fresh medium of choice
4. Seed as single-cell suspension on fresh LN-521 coated plates

COST-EFFECTIVE STEM CELL CULTURING



The specific LN-521 binding of the $\alpha 6 \beta 1$ integrin enables high cell survival and self-renewal and hPSCs grow faster on LN-521 compared to other feeder-free matrices. Due to faster growth rate and higher cell yield, the total cost (medium and matrix) per cell for an average passage is lowest for LN-521. [Read more about cost-effective stem cell culture](#)

LONG-TERM EFFICIENT EXPANSION



hESC and iPSC grow faster on LN-521 compared to other feeder-free matrices, facilitating automation. The specific LN-521 binding of the $\alpha 6 \beta 1$ integrin enables high cell survival and self-renewal. Cells expand quickly and reach 100% confluency after only 4 days after a 1:10 split. You will thus have 10.000 fold more cells

EASY AND FLEXIBLE CULTURE PROTOCOLS

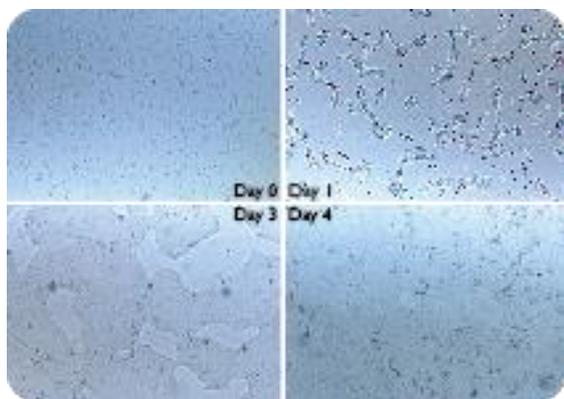
after only 4 passages, making the cell quantities of low-passage hPSCs needed for clinical applications possible.

GENETIC STABILITY



With LN-521 hPSCs can be seeded as single cells at low densities and cultured long-term without introduction of genetic abnormalities. Cells have been kept on LN-521 for more than 130 passages with stable karyotypes. Importantly, when LN-521 is used for the derivation of new hESC lines, the embryo is not destroyed and the lines originating from a single blastomer are genetically stable.

HOMOGENOUS HPSC MONOLAYER



PSCs plated as single-cell suspension on LN-521 grow as a homogeneous monolayer without any abnormal genetic aberrations. The specific LN-521 binding of the $\alpha6\beta1$ integrin enables high cell survival and self-renewal and once adapted to the LN-521 matrix, hPSCs can routinely be cultured as single cells without

the addition of ROCKi. LN-521 also support clonal survival and is a good substrate for derivation and gene editing.

LESS LABOR AND COMPLEXITY



hPSCs can be cultured to near confluence on LN-521 without spontaneous differentiation. The cells remain pluripotent (Oct4+; pink) on LN-521 with no spontaneous differentiation and there is no need to remove differentiated cell areas (only DAPI; blue) as compared to cells cultured on other substrates.
