

Code No. 54072

Fibronectin Neosilk®, Cellular

Volume : 1 mg

Lot No. :

Expiration date :

Introduction : A cellular fibronectin is an isoform of fibronectin proteins that is synthesized around cells to construct extracellular matrices as a cellular environment. The fibronectin secreted from cells promptly polymerizes and forms fibronectin matrices. Since the cellular fibronectin is detected from the proliferative tissues in living body, this fibronectin is thought to be related to cell growth and migration¹⁾. The feature of fibronectin has been also evaluated by recombinant technologies, which revealed that the fibronectin is superior to cell-adhesion and migration²⁾, and also suggested the possibility of having proliferative activity of cells³⁾.

Fibronectin Neosilk®, Cellular is a recombinant human fibronectin which is produced by transgenic silkworms as a homodimer of a cellular form-abundant splicing variant, EDA+, EDB+ and IIICS+⁴⁾. This recombinant fibronectin has the cell-adhesive activity comparable with or more than that of natural plasma fibronectin, and has a specific feature of free from animal derived materials. This product can be used as a coating material for various cultured cells including mesenchymal stem cells.

Content : Recombinant human fibronectin (EDA+, EDB+, IIICS+) homodimers.

Source : Extracted from cocoons of transgenic silkworms.

Purification : Purified by two types of multimodal chromatography (not by gelatin affinity chromatography).

Form : Lyophilized from 2 mL of 10 mM Tris-HCl, pH8.0 and 2% sucrose.

Storage : Lyophilized product should be stored at 2–10°C.

Reconstitution method : When dissolved in 2 mL of sterile purified water, the concentration of the fibronectin will be 0.5 mg/mL. After reconstitution, white coagulates may sometimes be observed in the solution, but these do not affect the protein concentration.

Storage after reconstitution : The reconstituted solution may be stored at 2–10°C for up to two months. For longer storage, aliquot into small volume, and store below –20°C. Avoid repeated freeze-thaws. The solution is stable below –20°C for at least 6 months.

Example of coating method : Dilute the reconstituted solution with PBS (–) or other solution to appropriate concentrations, and coat the culture surface with the diluted solution. The typical coating concentration is 1–5 µg/cm². In the case of coating onto a 6 well plate at 2.5 µg/cm² (24 µg/well), 2 mL of the diluted fibronectin solution to 12 µg/mL is added to the wells. After incubation at 37°C for 1 hr, remove the solution, wash with PBS (–), and seed your cells.

References : 1. Ffrench-Constant C et al, *J Cell Biol.* 109, 903 (1989)
2. Manabe R et al, *J Biol. Chem.* 139, 295 (1997)
3. Manabe R et al, *J Biol. Chem.* 274, 5919 (1999)
4. To WS, Midwood KS., *Fibrogenesis Tissue Repair* 4, 21 (2011)