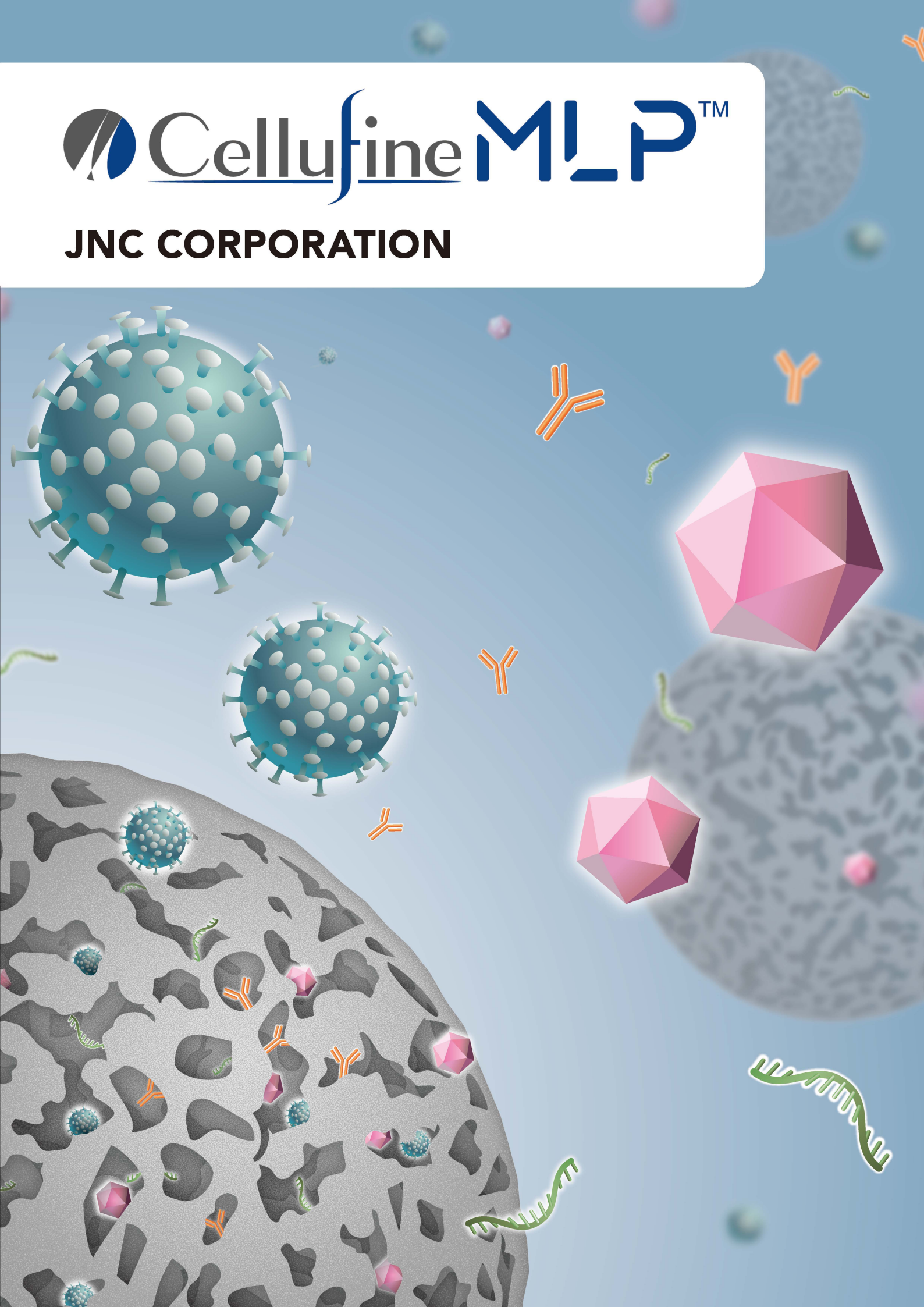
Cellufine MLP™

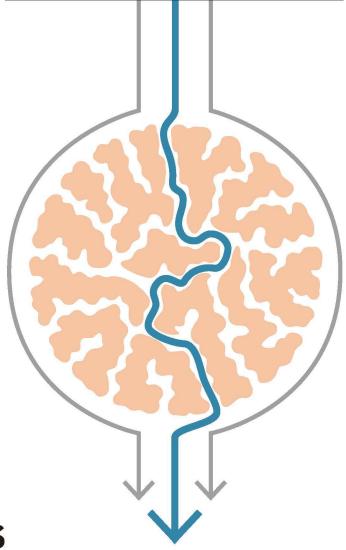
JNC CORPORATION



What is Cellufine MLP™?

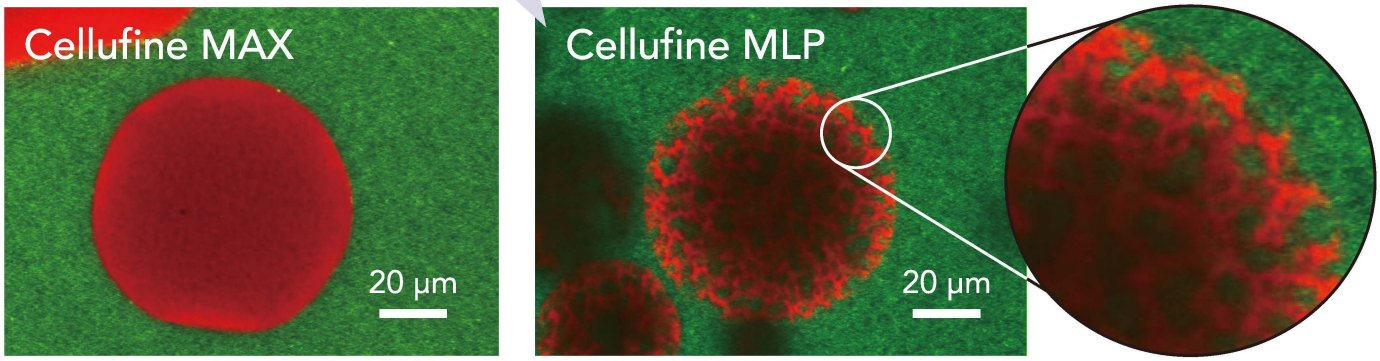
Cellufine MLP is a highly crosslinked cellulose particle that has greater than 1 µm continuous pore structure.

Therefore, the intraparticle surface of the resin can be used as an adsorption site for biomacromolecules such as large virus and virus-like particles.

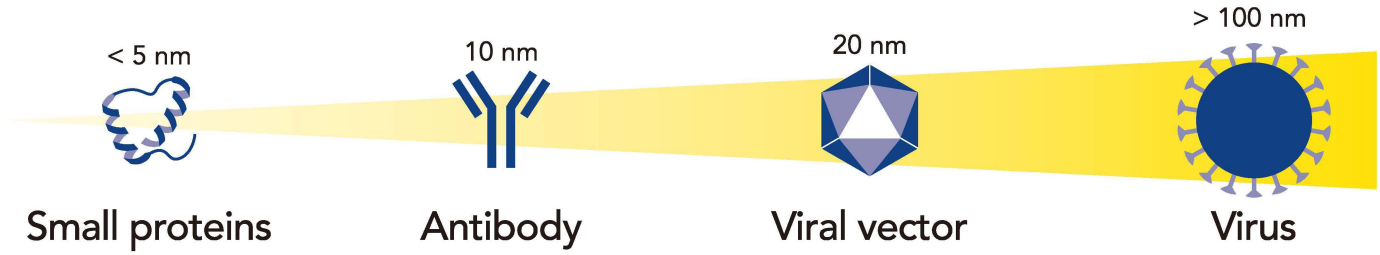


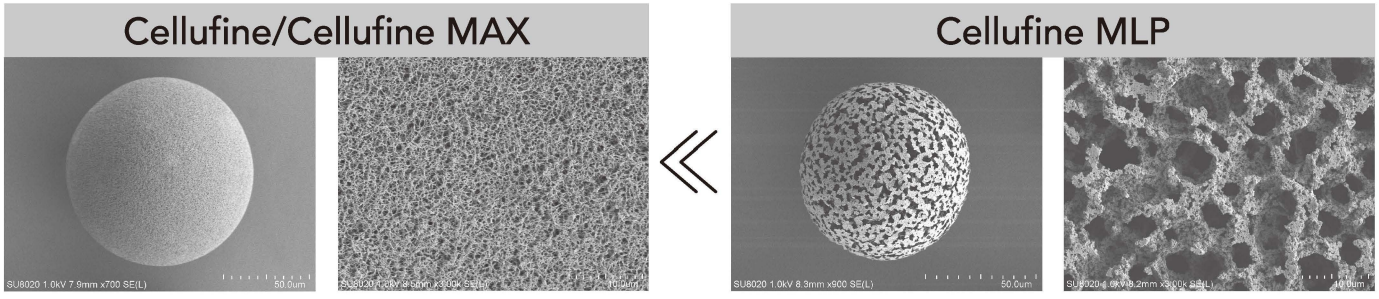
- ✓ Improved mass transfer
- ✓ High binding capacity for large biomolecules

Green fluorescent nanoparticles (100 nm) can diffuse into the intraparticle area of Cellufine MLP.



Target molecule size





We welcome requests for free samples and collaborative research!

10 mL bottle and/or Prepacked column (1 mL, 5 mL)

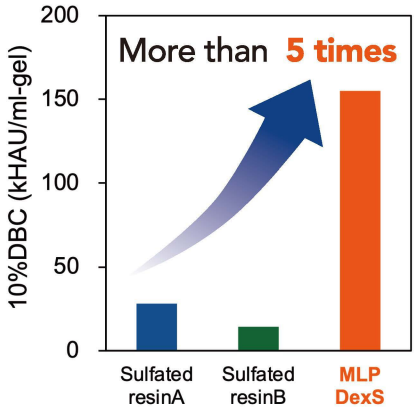
Let's create a future together. Reach us via the QR code on back.

Virus purification

High binding capacity of >100 nm bioparticles

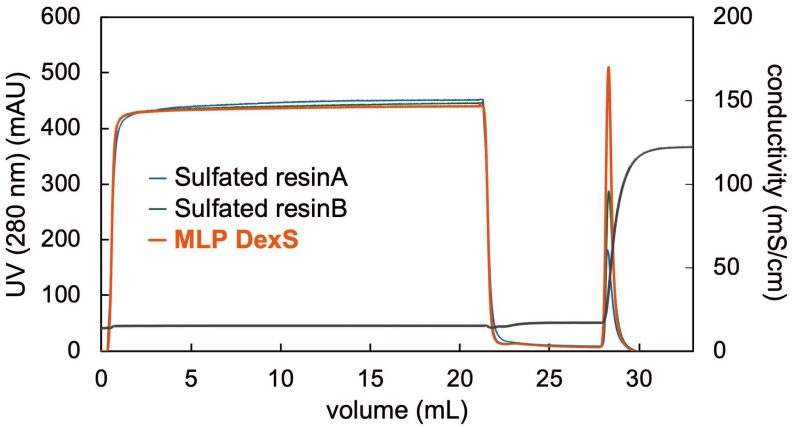
Cellufine MLP DexS - Affinity resin

Binding capacity of influenza virus



Column vol : ID 5 mm × 1.5 cm L (CV = 0.29 mL)
Flow rate : 0.5 mL/min
Load sample : Influenza A virus (H1N1) from MDCK cells

SARS-CoV-2 Purification



Column vol : ID 5 mm × 1.5 cm L (CV = 0.29 mL)
Flow rate : 0.5 mL/min
Load sample : SARS-CoV-2 XBB

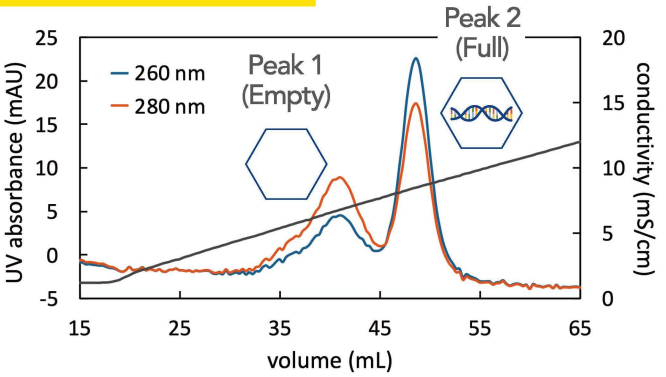
AAV purification

High performance for AAV full/empty capsids separation

Cellufine MLP DexQ - AEX resin

	Full particle ratio*
Load (AFF purified)	15.9%
Monolithic Column	42.8%
MLP DexQ for AAV	**70.6%**

* Full particle ratio was determined using mass photometry



Column vol : 1.0 mL
Flow rate : 1.0 mL/min (RT 1min)
Load sample : AFF purified AAV2: 1.06 x 10^{12} vg

Equilibration buffer : 50 mM Tris-HCl, pH 9.0, 2 mM $MgCl_2$
Elution buffer (B) : 50 mM Tris-HCl, 150 mM NaCl, 2 mM $MgCl_2$, pH 9.0

mAb purification

Efficient host cell proteins removal under high loading condition

Cellufine MLP MMC - Mixed mode resin

	mAb purity in feed (%)	HCPs in feed (ppm)	mAb purity in FT pool (%)	**mAb yield (%)**	**HCPs in FT pool (ppm)**
Capto adhere	97.2	1718	97.6	95.6	513
MAX IB	96.7	2229	97.8	96.3	59
MLP MMC	97.2	1718	97.7	**99.4**	**8**

Column vol : 0.3 mL Flow rate : 0.075 mL/min Load sample : Partially purified mAb solution (pH 7.0, 6.0 mS/cm), 1010 mg mAb/1 mL resin

Kenji Kadoi *et al.*, Fabrication and characterization of a cellulose monolith-like particle for virus purification, *Biochemical Engineering Journal*, 192 (2023), 108849.
Kenji Kadoi *et al.*, Enhanced sulfate pseudo-affinity chromatography using monolith-like particle architecture for purifying SARS-CoV-2, *Vaccines*, 53 (2025), 126951.

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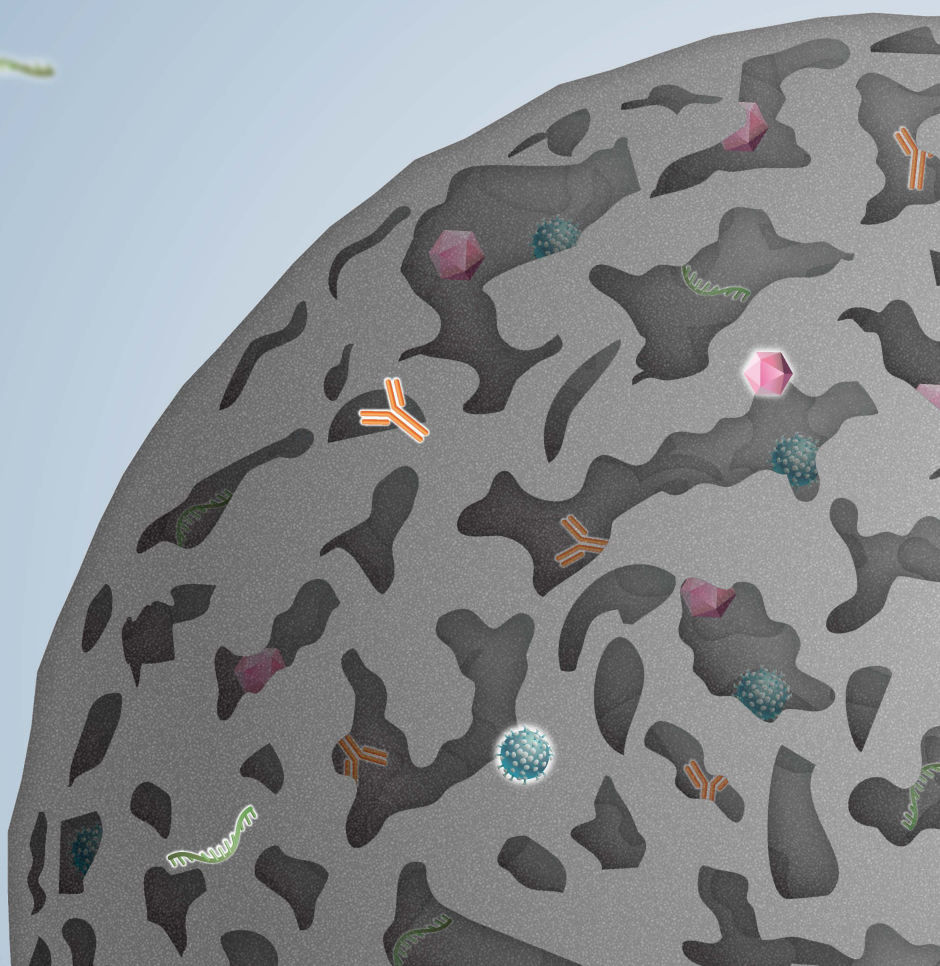
https://www.jnc-corp.co.jp/fine/en/cellufine/

We are always here to support your success!