

Your First Choice Virus Filter That You Can Absolutely Rely On

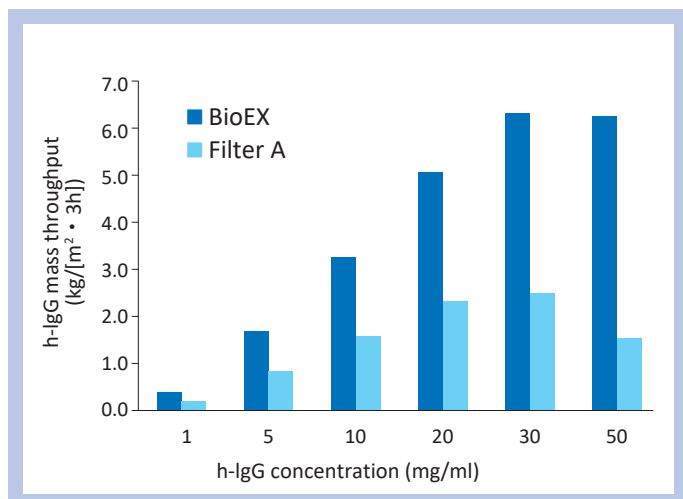
Advantages to maximize virus filtration process performance for high concentration proteins

- ✓ High Mass Throughput
- ✓ Accommodating High Aggregate Content

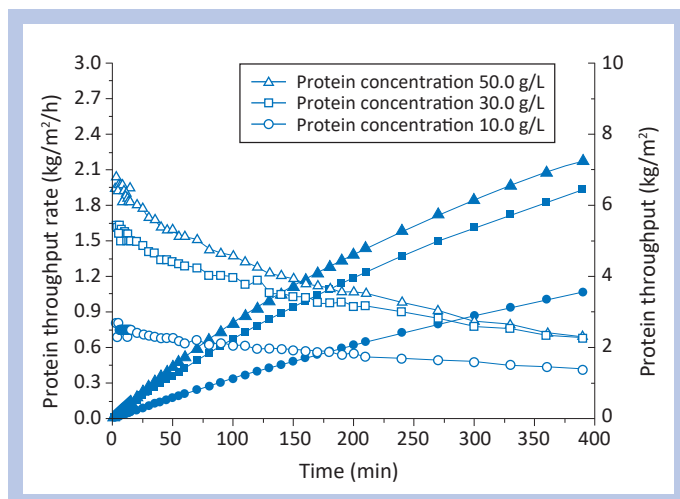


1. Planova™ BioEX exhibits high mass throughput for high concentration proteins

► High mass throughput contributes to reduce the required effective surface area



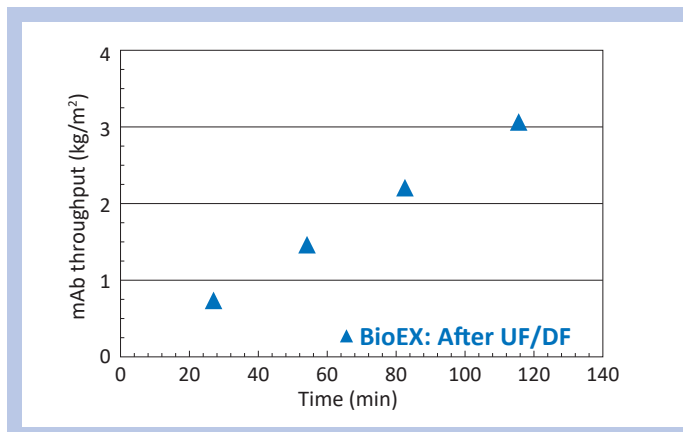
Tomoko Hongo, Asahi Kasei Medical, *Planova Workshop*, Boston, 2012 (excerpted)



Shan Ma et al. Shandong Taibang Biological Products. *Biologicals*. 2018, 37-43. (excerpted)

2. Planova™ BioEX exhibits excellent filterability with high concentration mAbs

► Virus filtration for high concentration mAbs after UF/DF results in reducing processing time and footprint



Option	Sample	Titer (Log ₁₀ (TCID ₅₀ /mL))	MMV LRV
BioEX: After UF/DF	Load	6.33	–
	Hold	6.33	–
	Fr.1	≤0.50	≥5.83
	Fr.2	≤0.50	≥5.83
	Fr.3	≤0.50	≥5.83
	Fr.4	≤0.50	≥5.83
	Pool	≤0.50	≥5.83
	Post wash	≤0.50	≥5.83

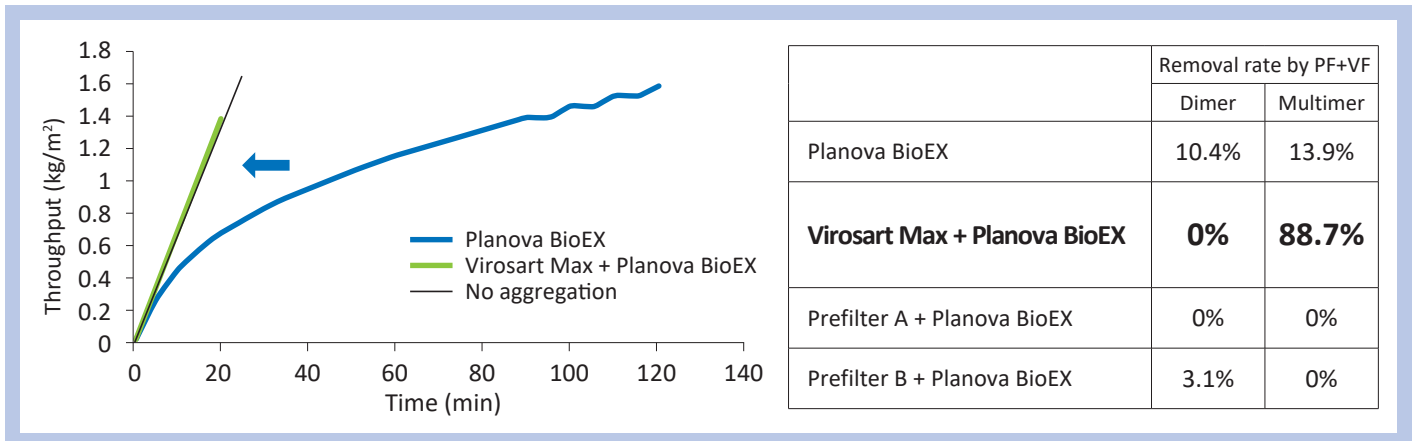
Yumiko Masuda, Daiichi Sankyo, *Planova Seminar 2019 China*, Hangzhou, 2019 (adapted)

Filtration conditions

Product solution: mAb A, 60 mg/mL
 Buffer: Histidine buffer containing tonicity agent, pH 6
 Pressure: 300 kPa (43.5 psi)

3. Filterability with Planova™ BioEX can be significantly improved with prefilter

- ▶ Planova BioEX paired with optimal prefilter removes the most aggregates
- ▶ Excellent filterability leads to reduce the total processing time



TAS37020, Asahi Kasei Medical (adapted)

Filtration conditions

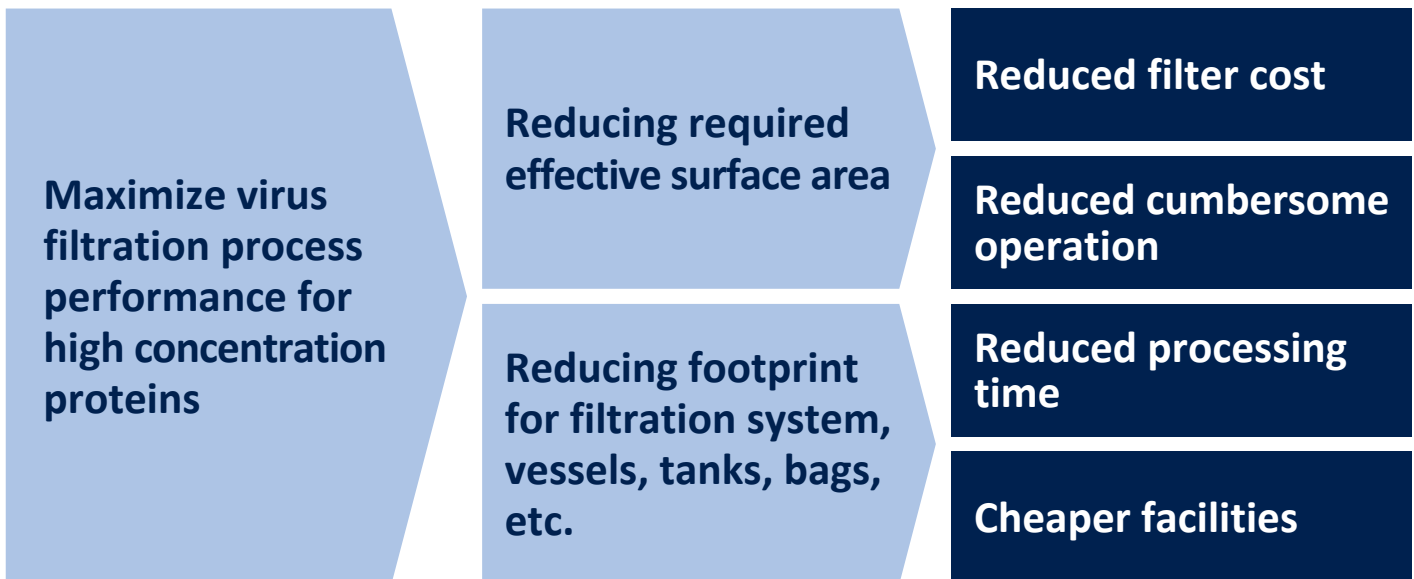
Product solution: 50 mg/mL mAb B, 0.05% aggregate

Pressure: 300 kPa (43.5 psi)

Virosart Max: 5 cm²

Planova BioEX: 0.0003 m²

Planova™ BioEX is the Recommended Virus Filter for Filtering High Concentration Proteins



From Asahi Kasei Bioprocess

We appreciate your interest in our products.

This Planova BioEX Spotlight examines several considerations for virus filtration processes with high concentration products. The ability to achieve the target throughput for high concentration products reduces material and labor costs and also reduces facility footprint. You can rely on Planova BioEX filters to optimize your high concentration protein process.

Please request additional information or technical support from an account manager, or visit our website. You can rely on our technical support on virus filtration process development, optimization and filter operation any time you need assistance.

