

# Planova™ BioEX Spotlight Vol.1

Your First Choice Virus Filter That You Can Absolutely Rely On

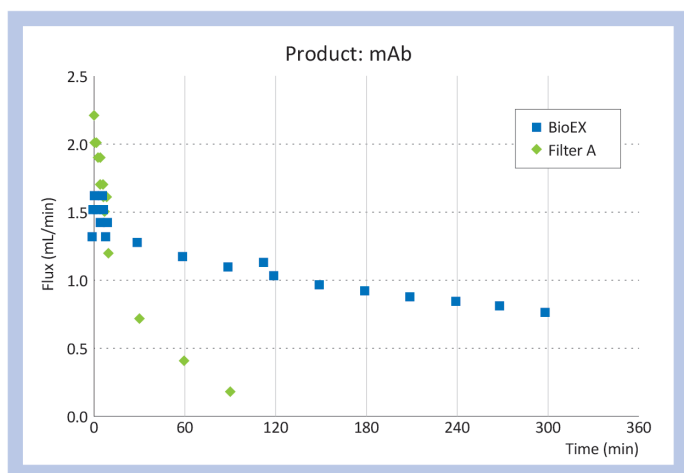
## Key Features

1. High Capacity and Compatibility
2. Robust Virus Removal
3. Excellent Scalability

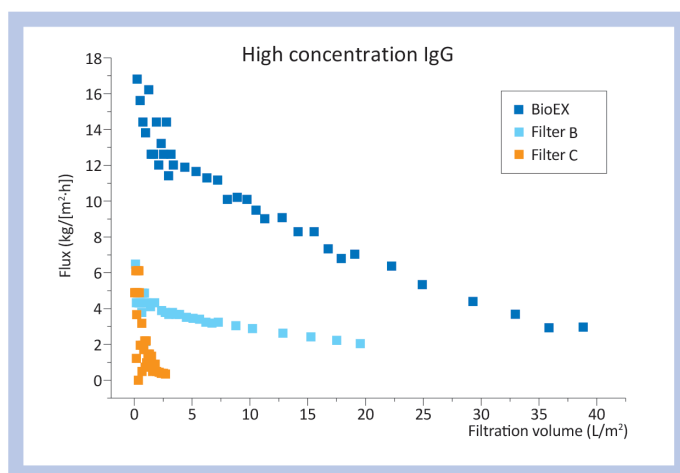


## 1. Planova™ BioEX is the dependable 'go-to' filter for various molecules

► Good filterability for many challenging mAbs



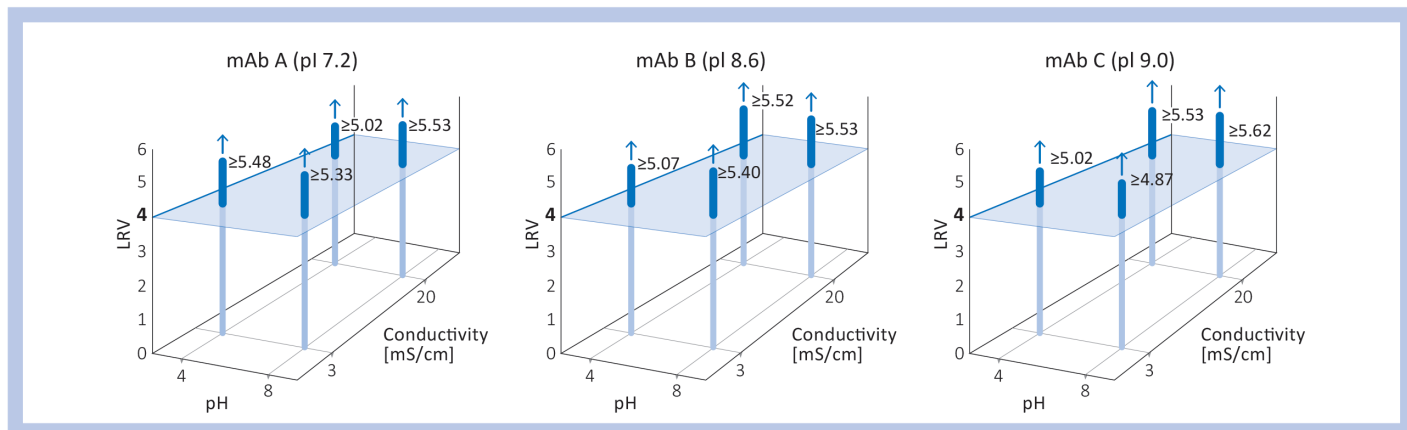
Sean O'Donnell, Eli Lilly, *Planova Workshop*, Prague, 2017 (adapted)



Innocent Bekard, CSL Behring, *Planova Workshop*, Cambridge, 2012 (adapted)  
 Feed solution: 60 g/L

## 2. Planova™ BioEX has robust virus removal capability for confidence in virus safety

► High MVM LRV with different mAbs under various conditions

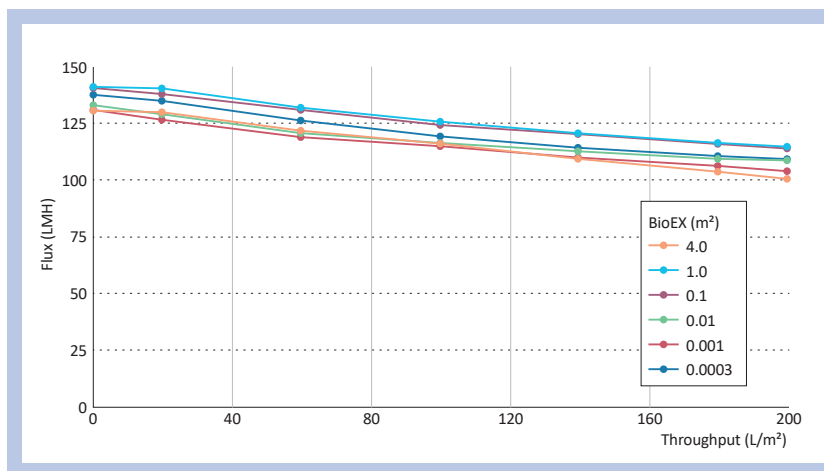


Joshua Goldstein, Janssen, *Planova Workshop*, Washington, 2014 (adapted)

**Filtration condition**  
 Feed solution: 5 g/L Feed volume: 50 L/m<sup>2</sup>

### 3. Planova™ BioEX filters are scalable with consistent performance

► Consistent performance at all scales contributed by hollow fiber technology



Daniel Strauss, Asahi Kasei Bioprocess America, *Planova Workshop*, Philadelphia, 2016 (adapted)

**Filtration condition**

Feed solution: 1 g/L BSA, 20 mM phosphate, 50 mM NaCl, pH 7  
 Feed volume: 200 L/m<sup>2</sup>, Spiking condition: ~6 log<sub>10</sub> PFU/mL PP7  
 Pressure: 343 kPa (49.7 psi)

### Planova™ BioEX Specifications and Integrity Test

**Specifications**

Hollow fiber membrane	Hydrophilic modified PVDF
Housing	Polycarbonate
Effective surface area (m <sup>2</sup> )	4.0, 1.0, 0.1, 0.01, 0.001, 0.0003
Maximum operating pressure	343 kPa (49.7 psi)
SIP tolerant	YES (≥ 0.1 m <sup>2</sup> )

**Easy Integrity Test**



For an automated option, choose the leakage test performed with the Planova™ Leak Tester (PLT).

**From Asahi Kasei Bioprocess**

We appreciate your interest in our products.

This Planova™ Spotlight introduces the features of Planova™ BioEX filters with a focus on the most recent data.

Please request additional information from an account manager or visit our website.

History of Planova™ BioEX filters: To meet demand in the biotherapeutic market for high flowrate filtration of high concentration protein solutions while achieving high virus removal, we launched the Planova™ BioEX filter in 2009. By selecting PVDF material for the hollow fiber membrane, we produced a Planova™ filter that can be operated at high pressure and can accommodate processes with high concentration feed solutions and high flow. We confidently offer Planova™ BioEX as your filter of choice to ensure virus safety of biopharmaceutical products.

