



# Polar MC-HIC Media

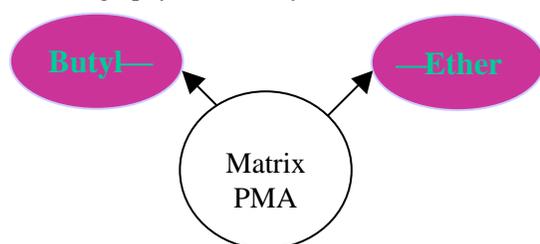
## (Hydrophobic Interaction Chromatography Media)

### Product Description

Polar MC chromatographic media is composed of hydrophilic polymethacrylate beads with high physical and chemical stability. The Polar MC media has particle size of 30  $\mu\text{m}$  with pore size of 800  $\text{\AA}$ . The media surface is highly hydrophilic, which minimizes non-specific bindings with biological analytes, so media could be used as without functional groups for size exclusion separations, or derivatized with different surface chemical groups for alternative modes of chromatography such as ion exchange, hydrophobic interaction or affinity separations.

Polar MC30-HIC Butyl and Ether media is designed for hydrophobic interaction chromatography. On the surface of the hydrophilic polymethacrylate beads, alkyl or substituted alkyl groups such as butyl and aryl or groups such phenyl are attached via chemical bonding, which provides hydrophobic interaction with analytes.

Polar MC30-HIC media provides excellent high efficiency and recovery separation of bio-molecules such as mAb (monoclonal antibody), ADC (antibody drug conjugate) and related protein fragments, DNA and oligonucleotides. The resins also tolerate high-pressure operation up to 100 bars. Polar MC30-HIC media is applicable at laboratory discovery, laboratory-scale purification and process chromatography for industry.



**Figure 1.** Chemical compositions of Polar MC30-HIC Butyl and Ether.

### Characteristics

- High chemical stability for low leaching
- Spherical particles with narrow particle size distribution
- High accessible surface area and high loading capacity
- High retentivity and selectivity
- Wide pH applications (pH=2-14)
- Available from grams to multi-Kilogram
- High-pressure limit



### Technical Specifications

Media Type	Polar MC30-HIC Butyl Polar MC30-HIC Ether	
Packing	70% (v/v) slurry in 20% ethanol	
Matrix	Hydrophilic polymethacrylate	
Particle Size	20 ~ 45 $\mu\text{m}$ (mean 30 $\mu\text{m}$ )	
Pore Structure	800 $\text{\AA}$	
Dynamic Binding Capacity*	Polar MC30-HIC Butyl	35 $\pm$ 5 mg lys. / mL
	Polar MC30-HIC Ether	15 $\pm$ 5 mg lys. / mL
pH Stability	2-14	
Operating Temperature	Up to 40 $^{\circ}\text{C}$	
Operating Pressure	Up to 100 bar	
Mobile Phase Compatibility	Compatible with aqueous solution, a mixture of water and acetonitrile, acetone, or methanol. Typical buffers: phosphate, Tris, & acetate.	
Linear Flow Rate	Up to 7200 cm/hour	

\* Polar MC30-HIC Ether & Butyl: DBC was tested with lysozyme (1 mg/mL) in 25 mM phosphate + 2 M  $(\text{NH}_4)_2\text{SO}_4$  with 360 cm/h flow rate at 280 nm, 10% breakthrough.

### Product Order Information

Description	Particle size	Resin volume	P/N
Polar MC30-HIC Butyl	30 $\mu\text{m}$	100 mL	258030-0000
Polar MC30-HIC Butyl	30 $\mu\text{m}$	1 L	258030-0000
Polar MC30-HIC Butyl	30 $\mu\text{m}$	5 L	258030-0000
Polar MC30-HIC Butyl	30 $\mu\text{m}$	20L	258030-0000
Polar MC30-HIC Ether	30 $\mu\text{m}$	100 mL	258130-0000
Polar MC30-HIC Ether	30 $\mu\text{m}$	1 L	258130-0000
Polar MC30-HIC Ether	30 $\mu\text{m}$	5 L	258130-0000
Polar MC30-HIC Ether	30 $\mu\text{m}$	20L	258130-0000

Different package sizes also available

