



Monomix HC-DEAE Excel

Anion Exchange Resins

— Sepax Technologies, Inc. —





Sepax Monomix HC60-DEAE Excel Resin



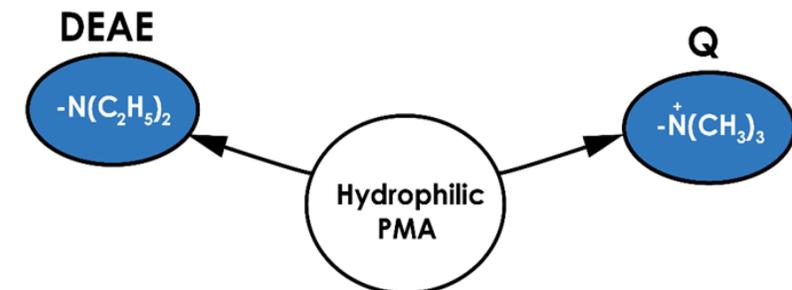
Sepax New Monomix anion exchange chromatography media, Monomix HC60-DEAE Excel, is based on hydrophilic treated polymethacrylate. The resins have particle size of 60 μm , and pore size of 1000 \AA , with excellent physical and chemical stability.

The resin has tentacle structure that are composed of long linear polymer chains carrying functional groups. The polymer chains are covalently bonded to the matrix, and this configuration provides a high surface area that allows biomolecules to bind accessible functional groups without much steric hindrance.

Characteristics:

1. Improved Alkaline Resistance – Longer Lifetime for Reduced Cost
2. Lower Working Pressure – Easier to Scale Up
3. Higher Protein Recovery – Higher Yield
4. Faster to Reach pH Equilibrium – Higher Efficiency

DBC is over 80% of initial value after exposure to 1M NaOH for over 170 hours





Technical Specification



Type	Monomix HC60-DEAE Excel
Matrix	Hydrophilic polymethacrylate
Characteristic	Low pressure High alkaline resistance
Functional Group	-N (CH ₂ CH ₃) ₂
Average particle size (D ₅₀)	60 μm
Average pore size	1000 Å
Dynamic loading capacity (/mL of resin)	≥ 80 mg BSA
pH stability	2-13
CIP condition	0.5-1.0 M NaOH
Maximum operating pressure	10 bar
Storage	50% (v/v), stored in 20% ethanol or 10 mM in NaOH aqueous solution
Chemical stability	Suitable for buffer salt system, conventional organic phase/water system



1. Alkaline Resistance Test

2. Pressure-Linear Flow rate Test

3. Non-Specific Binding (NSB) Test

4. pH Equilibration Test



Alkaline Resistance Challenge Test

Sample retention time change after the resin is soaked with 1 M NaOH

Name	Monomix HC60-DEAE Excel			
Soak time /h	RT1/min	R (RT1) %	RT2/min	R (RT2) %
Before soaking	20.49	/	32.07	/
48	19.96	97.41	31.43	98.00
120	19.52	95.26	30.77	95.95
240	18.39	89.75	28.85	89.96

DBC change after the resin is soaked with 1 M NaOH

Name	Monomix HC60-DEAE Excel	
Soak Time /h	DBC/ g/L	R(DBC)%
Before soaking	87.83	—
48	79.64	91.01
120	76.98	87.65
240	77.01	87.68

After the 240-hour soaking test with 1M NaOH,

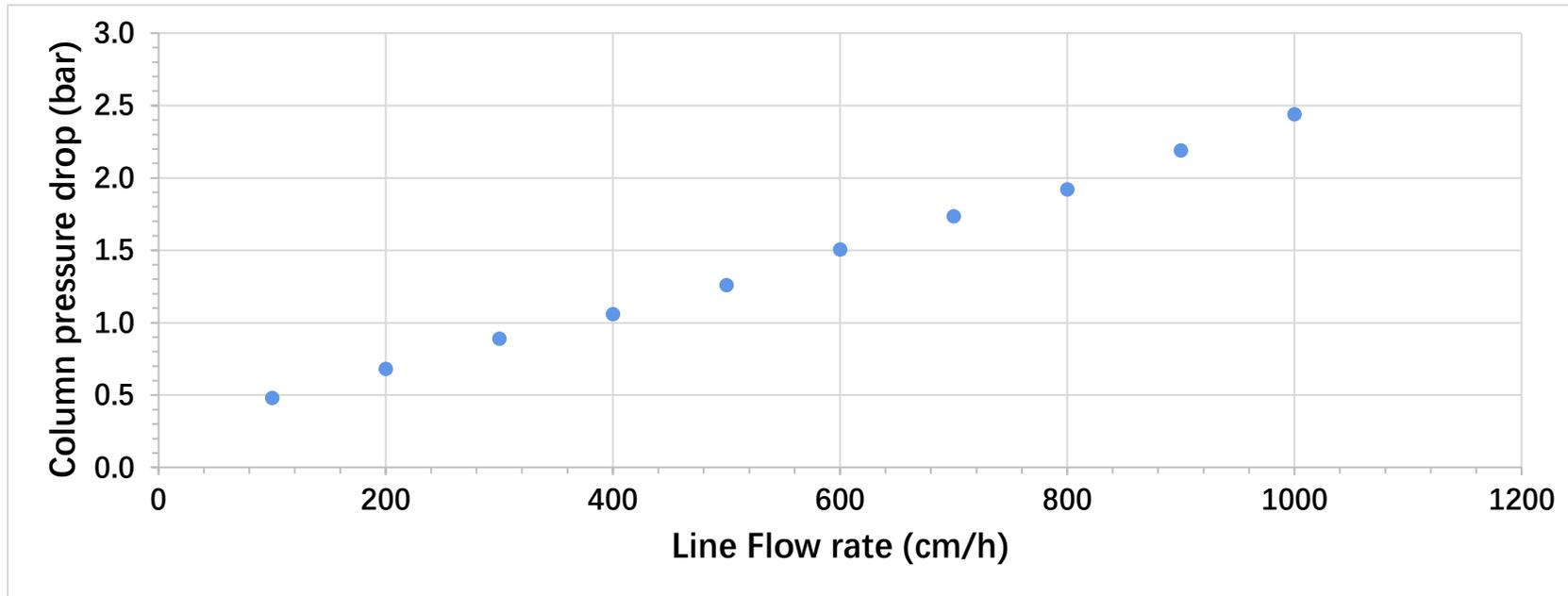
the retention time of protein standards did not change essentially and

DBC maintained above 85%.



Pressure- Linear Flow Rate Curve

Monomix HC60-DEAE-II Pressure – Linear Flow rate



Column pressure drop is around 2.0 bar at 1000 cm/h linear flow rate.

The column pressure drop is around 0.5 bar under convention line flow rate range (100~200 cm/h).

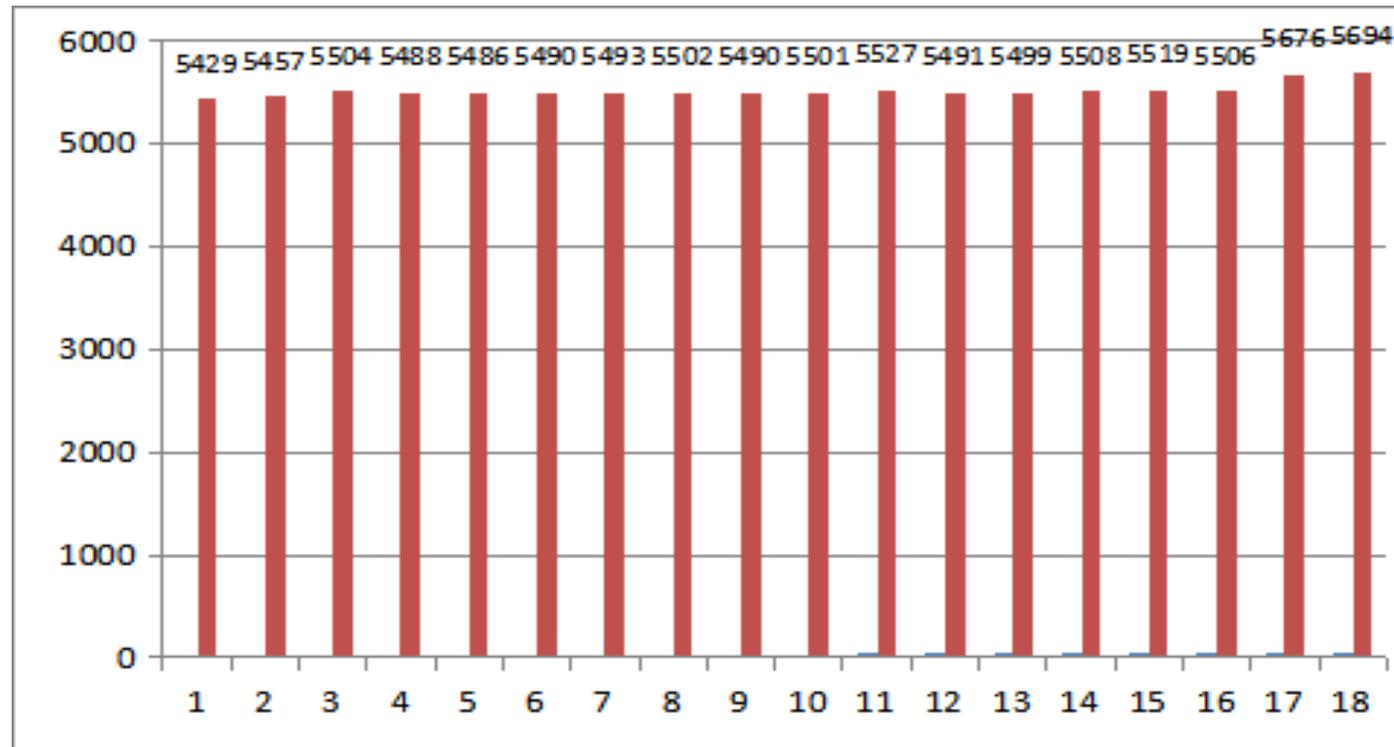
Column: Monomix HC60-DEAE Excel (10*200 mm, CV=15.7 mL)

Moble pase: 50 mmol/L Tris (pH8.5)



BSA Protein absorption-NSB test

Monomix HC60-DEAE Excel NSB Test, peak area trend



Monomix HC60-DEAE Excel Non-Specific Binding to BSA protein standard is low



Monomix HC60-DEAE Excel



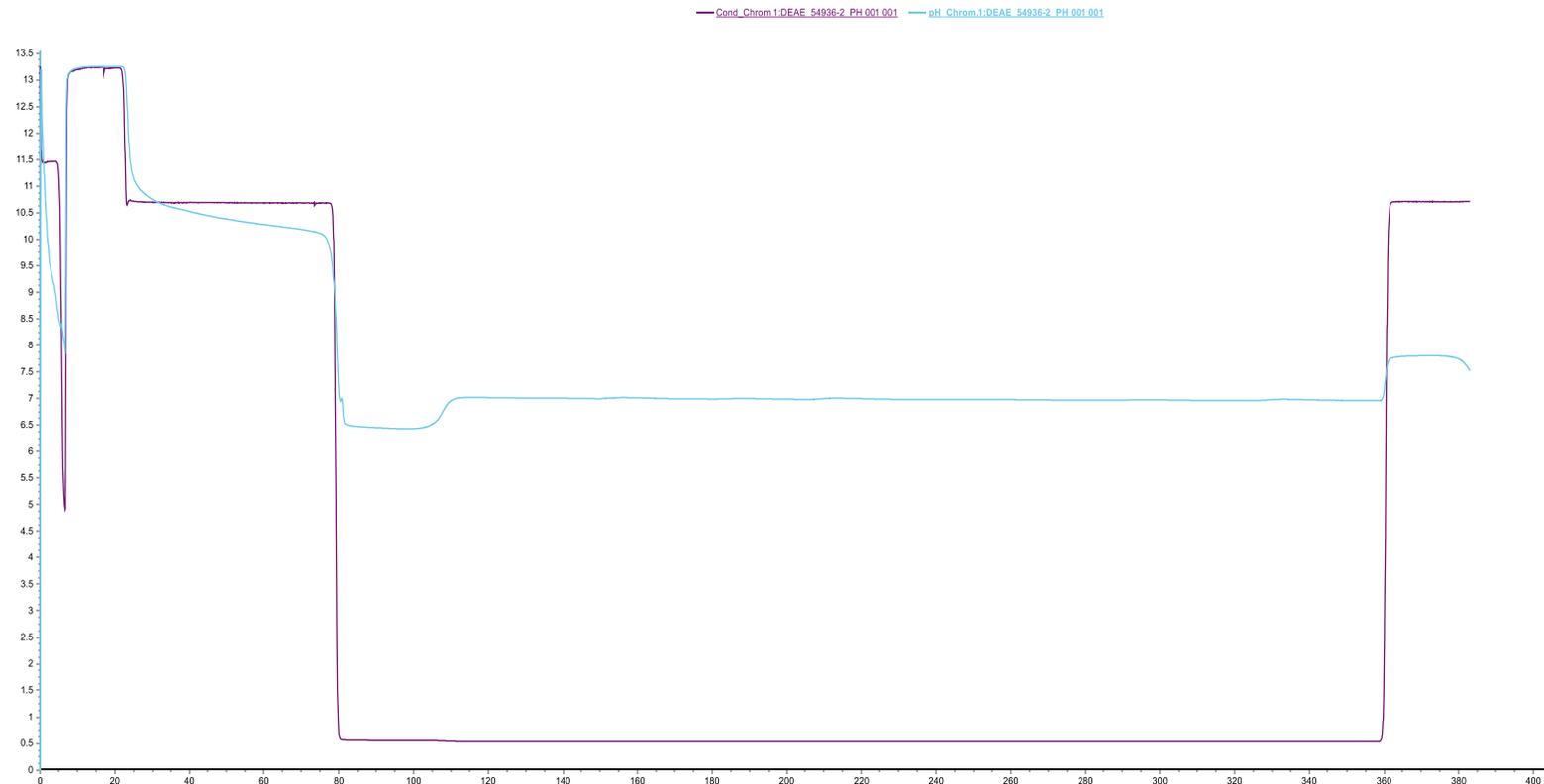
pH equilibration test

Column: $0.3421 \times 16.5 = 5.645$ mL

Flow rate: 1.129 mL/min

Detector : 280 nm

Mobile Phase: A1: 0.5M NaOH A2: 10mM Tris+3% sucrose+1M NaCl A3: 50mM Tris+3% sucrose



After changing from high salt to low salt, Monomix HC60-DEAE Excel reaches pH equilibration within 3-4 CV and stable afterwards



Order Info



Product	Particle Size	PN	Pack Size (L)	Cartridge (mL)
MabPurix P45	45 µm	270845990	0.5, 1, 5, 10, 100	4.2
MabPurix A45	45 µm	270745990	0.5, 1, 5, 10, 100	4.2
MabPurix A65	65 µm	270765990	0.5, 1, 5, 10, 100	4.2
Monomix Mab60-Q	60 µm	285060950	0.5, 1, 5, 10, 100	4.2
Monomix Mab60-Q	60 µm	285060950	0.5, 1, 5, 10, 100	4.2
Monomix HC60-DEAE Excel	60 µm	285160950	0.5, 1, 5, 10, 100	4.2
Monomix Mab60-SP	60 µm	284760950	0.5, 1, 5, 10, 100	4.2
Monomix MC60-HIC Butyl	60 µm	281660950	0.5, 1, 5, 10, 100	4.2
Polar MC60-HIC Phenyl	60 µm	191360800	0.5, 1, 5, 10, 100	4.2



Thank You!

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Affinity | IEX | Mixed Mode |
Multimodal | HIC | SEC | RP

