



Comparison guide for process development tools



Objective/criteria	PreDicator™ 96-well filter plates	PreDicator RoboColumn™ units	HiTrap™ or HiScreen™ columns
Throughput Number of experiments in parallel	96 experiments in parallel	8 rows in parallel (e.g., 96 experiments in parallel using one plate)	One at the time, but columns can be programmed to run automatically in sequence.
Sample consumption	1 unit	~ 10-fold compared to plates	~ 200-fold compared to plates
Reusable	Not recommended	Yes, depending on conditions	Yes, depending on conditions
Automation	Yes	Yes	Yes
Manual	Yes	No	No
Dynamic binding capacities	No	Yes	Yes
Static binding capacities	Yes	Yes	Yes
Cleaning-in-Place studies/cleaning efficiency	Yes, most conditions can be studied in parallel	Yes, depending on conditions and experimental setup	Yes, depending on conditions and experimental setup
Process characterization	Yes	Yes	Yes
Process qualification	No	No	Yes, two HiScreen columns connected in series for a 20 cm bed height
Selectivity studies	Yes	Yes	Yes, HiScreen columns preferred
Binding studies	Yes, qualitative	Yes, qualitative	Yes, qualitative and quantitative
Elution studies	Yes	Yes	Yes
Pooling criteria (estimation of resolution)	No	Yes	Yes



Objective/criteria	PreDictor 96-well filter plates	PreDictor RoboColumn units	HiTrap or HiScreen columns
Verification of conditions	N/A Use for screening	N/A Use for screening	Yes, use UNICORN™ software for evaluation, comparison, and data storage
Flow dependency studies	No, use different incubation times to study contact times	Yes, flow rate limitations dependent on Tecan™ equipment	Yes, high accuracy. Use, for example, with ÄKTA™ systems
Screening of conditions	Yes	Yes	Yes
Chromatography medium (resin) screening	Yes, prefilled with GE Healthcare Life Sciences' BioProcess™ media	Yes, prepacked with all commercially available media via Atoll GmbH	Yes, prepacked with GE Healthcare Life Sciences' both BioProcess and lab media
Gradient elution	Yes, but only stepwise gradient with Freedom EVO™ robotic system	Yes, but only stepwise gradient with Freedom EVO robotic system	Yes, elution conditions in plates followed by gradient elution in columns
Flow rate	No, use different incubation times to study contact times	Yes	Yes
Effect of loading density	Yes, rough estimates	Yes	Yes, evaluation with UNICORN software
Yield	Yes, mass balance studies	Yes	Yes
Elution conductivity	Yes, but separate probe needed	Yes, but separate probe needed	Yes, measured online with UNICORN software
Load conductivity	Yes	Yes	Yes, evaluation with UNICORN software



BioProcess chromatography medium	PreDictor 96-well filter plates				PreDictor RoboColumn		HiTrap		HiScreen
	2 µL	6 µL	20 µL	50 µL	200 µL	600 µL	1 mL	5 mL	4.7 mL
Ion exchange									
Capto™ Q	•		•	•	•	•	•	•	•
Capto S	•		•	•	•	•	•	•	•
Capto DEAE	•		•	•	•	•	•	•	•
Capto S ImpAct	•		•	•	•	•	•	•	•
Capto Q ImpRes		•	•		•	•	•	•	•
Capto SP ImpRes		•	•		•	•	•	•	•
Q Sepharose™ Fast Flow		•	•	•	•	•	•	•	•
SP Sepharose Fast Flow		•	•	•	•	•	•	•	•
CM Sepharose Fast Flow							•	•	
ANX Sepharose Fast Flow (high sub)							•	•	
Q Sepharose High Performance							•	•	•
SP Sepharose High Performance							•	•	•
Q Sepharose XL							•	•	
SP Sepharose XL							•	•	
Hydrophobic Interaction									
Capto Butyl		•		•	•	•			•
Capto Octyl		•		•	•	•			
Capto Phenyl (high sub)		•		•	•	•			•
Capto Phenyl ImpRes							•	•	•
Capto Butyl ImpRes							•	•	•
Butyl Sepharose 4 Fast Flow		•		•	•	•	•	•	•
Butyl-S Sepharose 6 Fast Flow		•		•	•	•	•	•	•
Octyl Sepharose 4 Fast Flow		•		•	•	•	•	•	•
Phenyl Sepharose 6 Fast Flow (high sub)		•		•	•	•	•	•	•
Phenyl Sepharose 6 Fast Flow (low sub)		•		•	•	•	•	•	•
Phenyl Sepharose High Performance							•	•	•
Butyl Sepharose High Performance							•	•	•
Multimodal									
Capto adhere		•	•	•	•	•	•	•	•
Capto MMC		•	•	•	•	•	•	•	•
Capto adhere ImpRes		•	•		•	•	•		•
Capto MMC ImpRes		•	•		•	•	•		•
Capto Core 700							•		•
Affinity									
MabSelect™		•	•	•	•	•	•	•	•
MabSelect Xtra™		•	•	•	•	•	•	•	•
MabSelect SuRe™		•	•	•	•	•	•	•	•
MabSelect SuRe LX		•	•	•	•	•	•	•	•
rProtein A Sepharose Fast Flow							•	•	
Capto L		•	•	•	•	•	•	•	•
KappaSelect		•	•	•*			•	•	
LambdaFabSelect		•	•	•			•	•	
Capto Blue									•
Blue Sepharose 6 Fast Flow									•
IMAC Sepharose 6 Fast Flow							•	•	•

* Note: KappaSelect PreDictor 96-well filter plates have 100 µL/well and not 50 µL/well.

www.gelifesciences.com/predictor

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