interchim®

Stacker | Parallel Purification System™

Rapid sequential and parallel purification in a 24 well micro titer plate footprint using standard filtration, phase separation and SPE columns...

RADLEYS DISCOVERY TECHNOLOGIES

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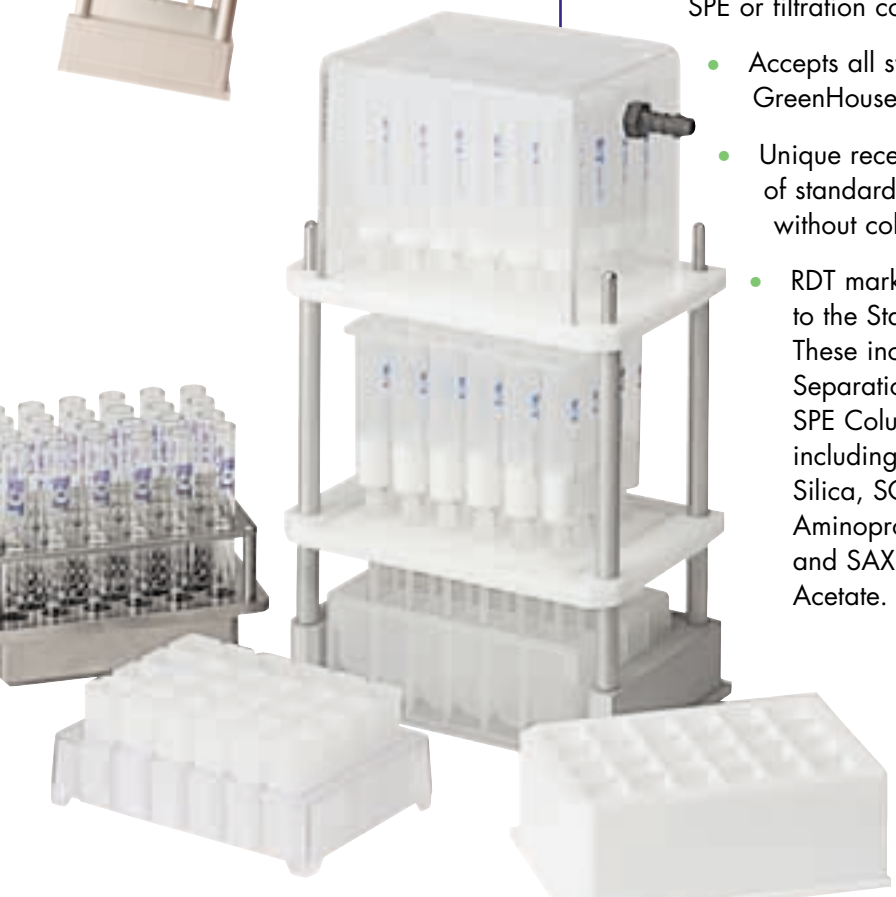
The Stacker is designed to make your parallel and combinatorial chemistry workups and purification, quick and easy.

The principle of the Stacker allows efficient purification of samples from any standard 24 well format micro titer plate, as well as the GreenHouse reaction blocks, Lollipop, 24 x 7ml micro titer plates and other 24 position reactors/synthesisers.

The Stacker allows two levels of filtration, phase separation and/or SPE (Solid Phase Extraction) columns to be stacked, one above the other. This enables parallel and sequential filtration, phase separation and/or SPE in 24 samples.

Stacker Features & Benefits

- Stacked column design allows sequential purification e.g. phase separation and SPE or filtration and SPE
- Easily removable upper support plate allows unit to be used for single or sequential parallel purification
- Clear gas cover allows slight positive pressure to be applied to increase flow rate of difficult samples
- Design accommodates all standard 3ml and 6ml tabbed or tabless SPE or filtration columns
- Accepts all standard 24 well micro titer plates, as well as GreenHouse Reaction Blocks for fraction collection
- Unique recessed design of support plates allows positioning of standard format columns within micro titer plate footprint without column tabs obstructing each other
- RDT market a complete range of consumables dedicated to the Stacker and preparative chemistry. These include Filtration, Phase Separation and SPE Columns including Silica, SCX, Aminopropyl and SAX Acetate.



Solid Phase Extraction (SPE) Columns

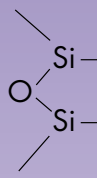
RDT offer four standard types of SPE Columns in two sizes that will cover the vast majority of purifications for the Stacker. These are:-

Cat No	Description	Volume	Pk Qty
RR99810	Silica 500mg	3ml	50
RR99811	Silica 1.0g	6ml	30
RR99812	Aminopropyl 500mg	3ml	50
RR99813	Aminopropyl 1.0g	6ml	30
RR99814	SCX 500mg	3ml	50
RR99815	SCX 1.0g	6ml	30
RR99816	SAX Acetate 500mg	3ml	50
RR99817	SAX Acetate 1.0g	6ml	30

The following guidelines are intended to help in the initial selection of a column according to the main interactions of the solid phase, polar, non-polar or anion/cation exchange.

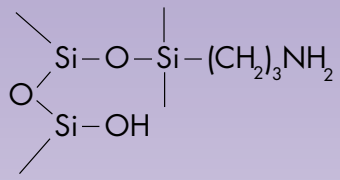
Silica

The main interaction is polar via the silanol functionality. Most useful for purifying moderately polar compounds where the impurities are either or both very non-polar (eluted first) or very polar (retained on column).



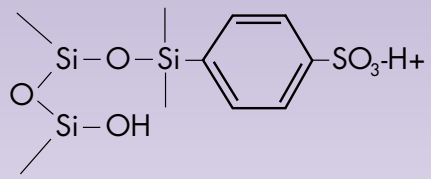
Aminopropyl

Normally used as a polar sorbent. The amino group can hydrogen bond with a variety of polar groups, e.g. hydroxyl, amino etc and will have polar interactions with polar groups. It will also function as a weak anion exchanger when protonated.



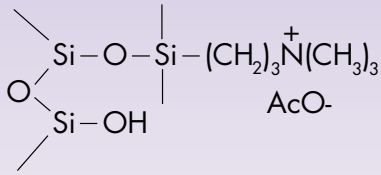
SCX

A strong cation exchanger used to extract basic compounds capable of holding a positive charge. Can be used for extracting basic impurities from non-basic products (which pass straight through), or for extracting basic products from non-basic impurities (which pass straight through). The basic products can then be eluted using a medium with a higher pH.



SAX Acetate

A strong anion exchanger used to extract compounds capable of carrying a negative charge (e.g. weak acids). Can be used for extracting acidic impurities from non-acidic products (which pass straight through), or for extracting acidic products from non-acidic impurities (which pass straight through). The acidic products can then be eluted using a medium with a lower pH.








20µm PE Filtration Columns

Typical applications include:

- Isolation of precipitates or crystallites from the reaction mixture
- Filtration of resins prior to cleavage
- Filtration of solid supported reagents post synthesis
- Removal of solid impurities prior to SPE

In the first two cases the Filtration Columns are used in the 'Lower Level' as subsequent SPE is not required. Pressure can be applied to the Columns using the Acrylic Gas Cover to increase the flow rate. If individual Columns are slow or become blocked pressure can be applied to individual columns using the appropriate tapered adapter. The crude product or resin is washed prior to isolation or cleavage etc as required.

Solid impurities, for example salts may be removed using the Filtration Columns in the 'Upper Level' prior to SPE in the 'Lower Level'. See the Stacker Instructions for further information.

Phase Separation Columns

The Phase Separation Columns contain a hydrophobic frit and are designed to separate organic phases that are denser than water (eg dichloromethane). They can be used in the 'Lower Level' if further purification is not required or in the 'Upper Level' if SPE purification is required after phase separation.

Following partition of a crude reaction mixture between for example dichloromethane and water, the mixture is transferred to a Phase Separation Column where the lower organic layer will run through the frit leaving the upper aqueous layer for disposal.

It should not be necessary to apply pressure, indeed doing so can allow the aqueous layer to break through the hydrophobic frit.

Cat No	Description	Volume	Pk Qty
RR99818	20µm PE Filtration Column	3ml	100
RR99819	20µm PE Filtration Column	6ml	100
RR99820	Phase Separation Column	3ml	100
RR99821	Phase Separation Column	6ml	100

6 Channel Impact^2 Electronic Pipettor

The cordless, rechargeable Impact^2 pipettor accepts six extra-long, narrow 1250µl pipette tips, allowing you to reach to the very bottom of longer tubes or deep wells (including the GreenHouse Reaction Tubes). The Impact^2 allows programming and storage of five different protocols of up to 40 steps each, with one additional floating program. Plus 3 standard and 2 additional slow speed controls for working with viscous liquids. The Impact^2's unique expandable tip spacing system allows transfer of samples from 96 to 24 well formats with ease (freely expandable from 9mm to 19.81mm). The Impact^2 pipettor is available in other volumes and with 8 or 12 channels - details on request.

Stacker Parallel Purification System™

Rapid sequential and parallel purification in a 24 well micro plate footprint using standard filtration, phase separation and SPE columns...

International patents pending

Clear gas cover allows slight positive pressure to be applied to increase flow rate of difficult samples

Stacked column design allows sequential purification e.g. phase separation and SPE or filtration and SPE

Easily removable upper support plate allows unit to be used for single or sequential parallel purification

Robust anodised aluminium construction

RDT offers a wide range of SPE columns, including Silica, SAX Acetate, Aminopropyl, SCX, plus Phase Separation and Filtration columns

Unique recessed design of support plates allows positioning of standard format columns within micro titer plate footprint without column tabs obstructing each other

Design accommodates all standard 3ml and 6ml tabbed or tabless SPE or filtration columns

Silicone sponge gasket on upper and lower support plates seals with clear acrylic gas cover

Accepts all standard 24 well micro titer plates, as well as GreenHouse Reaction Blocks for fraction collection

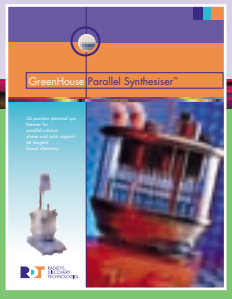
Stacker Accessories

Acrylic Gas Cover - This semi-disposable acrylic cover will eventually be attacked by solvents and will need replacing. Its simple design allow us to offer replacements at a very reasonable price.

Column Caps & Luer Tips - Disposable polypropylene red caps and clear Luer Tips are for sealing/plugging columns for storage or transportation.

Micro Titer Plates - Three popular 24 well micro titer plate styles ideal for fraction collection from the Stacker.

Cat No	Description	Qty
RR99800	Stacker Parallel Purification System	1
SPE Columns		
RR99810	Silica 500mg/3ml	50
RR99811	Silica 1.0g/6ml	30
RR99812	Aminopropyl 500mg/3ml	50
RR99813	Aminopropyl 1.0g/6ml	30
RR99814	SCX 500mg/3ml	50
RR99815	SCX 1.0g/6ml	30
RR99816	SAX Acetate 500mg/3ml	50
RR99817	SAX Acetate 1.0g/6ml	30
Filtration Columns		
RR99818	20um PE Filtration 3ml	100
RR99819	20um PE Filtration 6ml	100
Phase Separation Columns		
RR99820	Phase Separation 3ml	100
RR99821	Phase Separation 6ml	100
Accessories & Replacement Parts		
RR99802	Replacement Acrylic Gas Cover	1
RR99806	Stepped Connector for 3ml Columns	1
RR99807	Stepped Connector for 6ml Columns	1
RR99808	Clear Gas Tubing, 1 metre	1
RR99809	Spare Polypropylene Needle Tips	50
RR99822	Column Caps 3ml	100
RR99823	Column Caps 6ml	100
RR99824	Luer Tip Caps	100
24 Well Micro Titer Collection Plates		
T-9000U	Titan 24 x 9ml Conical Bottomed PTFE Plate	1
RR98020	Loose 7ml HDPE Pots	100
RR98021	24 Place Polycarbonate Pot Holder with Cover	1
RR99440	10ml x 24 Well Clear Polypropylene Micro Plate	25
Impact² Multi-channel Pipettors		
RR70048	Impact² 6 x1250µl Multi-Channel Pipettor	1
RR70213	1250µl Extra-long Racked Pipette Tips	720
RR70051	Impact² Pipettor Stand	1



A 24 position personal parallel synthesiser designed by medicinal chemists at GlaxoWellcome

Innovative micro titer plate solutions for compound storage, combi-chem, parallel synthesis and HTS

Radleys Discovery Technologies are specialists in combi-chem innovation...

As a dynamic organisation Radleys Discovery Technologies are best able to react to the needs of this constantly developing market sector. Radleys Discovery Technologies specific areas of expertise is focused on parallel synthesis and parallel purification consumables and apparatus. The essential products that are the cornerstone of your parallel chemistry program.