

ResPep SL

Automated Peptide Synthesis: Microcolumns • Arrays • Large Scale

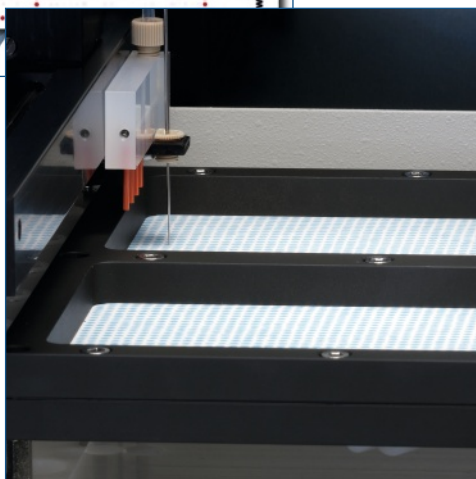
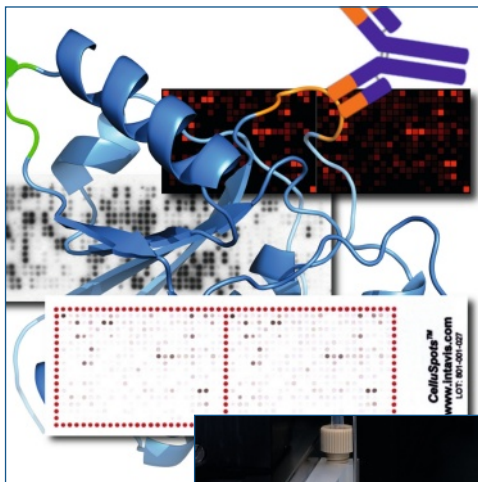
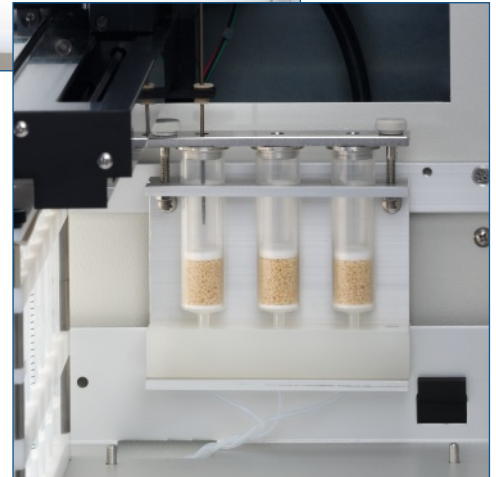
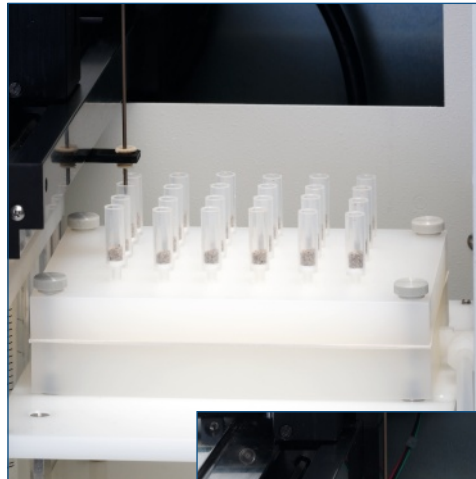


Synthesis from micro to large scale

The **ResPep SL** is a fully automated tabletop peptide synthesizer. Exchangeable modules cover synthesis scales for screenings with hundreds of peptides in parallel, the affordable production of AQUA peptides™ in micro-columns to the large scale synthesis of 100 mg or more of one single sequence.

Easy to set up and use, the **ResPep SL** is equally suited to use in core facilities, biological focused laboratories and synthesis units.

- Peptide arrays
- AQUA peptides™
- Labeled peptides (biotin, fluorophores, ...)
- Peptide sets
- Peptides for antibody generation
- Peptides for structure determination



Synthesis of peptide arrays

Peptide arrays are powerful and economic tools for epitope mapping, protein interaction and inhibitor studies. The **ResPep SL** can be used for the synthesis of membrane bound peptide arrays (SPOT method) or in combination with the **Slide Spotting Robot** to generate hundreds of identical **CelluSpots™** peptide arrays on coated microscope slides.

In a couple of days ready-to-use peptide arrays with more than 600 peptides can be synthesized.

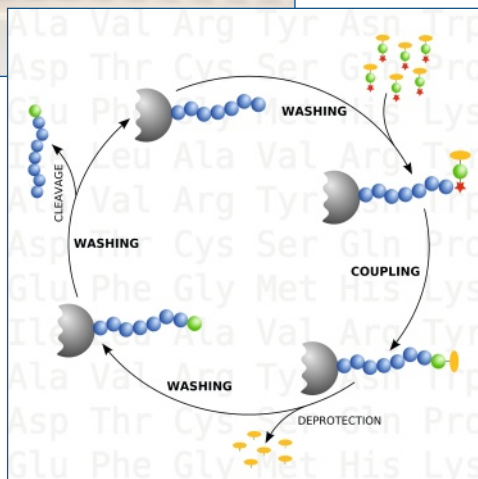
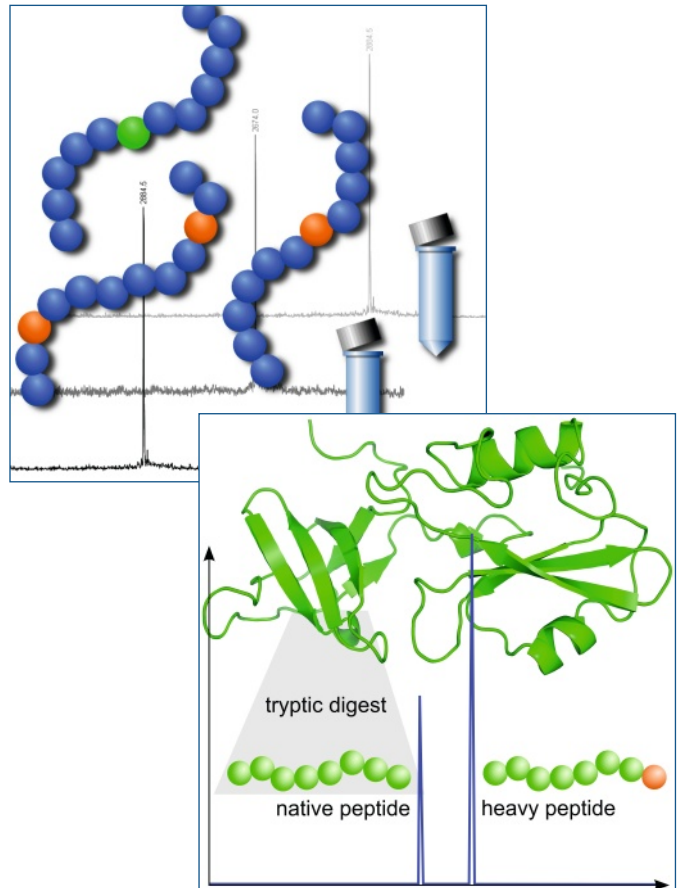
- Epitope mapping
- Protein interaction studies
- Binding domains
- Vaccine development
- Receptor binding

AQUA Peptides

Heavy isotope labeled peptides can be used as internal standard for absolute quantitation (AQUA) of proteins by mass spectrometry (MS). Heavy hydrogen (^2H), carbon (^{13}C) or nitrogen (^{15}N) modified amino acids are used to synthesize stable isotopically labeled analogs to signature peptides from tryptic digests.

To quantify a protein of interest the sample is spiked with a known amount of the heavy peptide and digested. The protein abundance can then be calculated from the MS peaks.

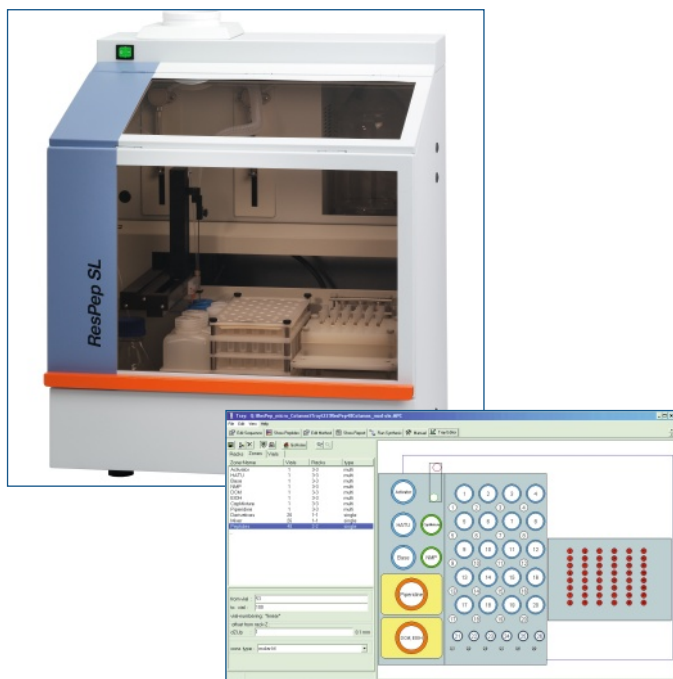
- Biomarker validation
- Protein expression
- Metabolomics
- Profiling of cell signalling
- Low abundance proteins quantification



Principle of operation

The **ResPep SL** is based on a pipetting robot with single needle and multi-channel manifold for rapid washing. During solid phase peptide synthesis (SPPS) reagents and solvents are distributed to the corresponding columns, microcolumns or plates filled with synthesis support. After the appropriate reaction or washing time, solvents are extracted by vacuum-assisted draining through the filter of each column or well. The mild Fmoc-chemistry used avoids harsh acids during the synthesis and can be used in any lab.

- **Versatile:** four different modules
- **Compact design:** save laboratory space
- **Fast:** parallel synthesis
- **Easy-to-use:** intuitive software
- **Flexible:** open access to all parameters



Intuitive operation software

The **ResPep SL** is operated by a Windows™ based software running on a standard PC.

- Graphical user interface
- Import and export of sequences
- Preconfigured synthesis protocols
- Easy method development
- Calculation of reagent consumption
- Real-time display of instrument operation
- Detailed documentation of each run

Specifications

- Solid phase Fmoc peptide synthesis
- Activation by PyBOP, HBTU, DIC/HOBt or similar chemistries
- Pre-activation in dedicated vials with freely defined times
- Rapid washing by manifold with two selectable solvents

- Detailed specifications of synthesis parameters
- Vacuum extraction of reagents and solvents
- Open access to the work area during operation
- Closed cabinet with build in exhaust fan

Available modules:

96 well plate synthesis module:

Synthesis scale: 1 - 10 µmol
Number of peptides per run: up to 96

Microcolumn synthesis module:

Synthesis scale: 1 - 15 µmol
Number of peptides per run: up to 24

3-Column synthesis module:

Synthesis scale: 25 - 100 µmol
Number of peptides per run: up to 3

Automated *CelluSpots*™ or SPOT synthesis module:

Number of synthesis plates / membranes: 2 (microtiter plate size)
Number of peptides per run: up to 1200 (membranes) / up to 768 (*CelluSpots*™ disks)
Chemistry: HOBt / DIC with pre-activation or OPfp-ester

Number of reagents: 7 (2x 250 ml / 3x 50 ml / 2x 35 ml)
Number of derivatives: 26 and 48 vials
large rack: 20x 25 ml & 6x 13 ml; small rack: 24x 13 ml & 24x 1.8 ml
separate mixer vials for pre-activation for each derivative

Power: Voltage: 220-240 V or 90-120 V / Frequency: 50-60 Hz
Dimensions: 57 x 50 x 69 cm (width x depth x height) [22.4 x 19.7 x 27.2 inches]
Weight: 62 kg

More information: Please contact us at info@intavis.com or visit www.intavis.com

INTAVIS Bioanalytical Instruments, Widdersdorfer Str. 248-252, 50933 Köln, Germany
Phone: +49-221-502 94 68-0, Fax: +49-221-502 94 68-9
USA Phone: 1-773-572-5799, Fax: 1-773-305-1845, Toll free: 1-800-587-0085