

Symphony[®] X

Multiplex Peptide Synthesizer



www.gyrosproteintechnologies.com

GYROS PROTEIN
Technologies

Symphony X[®] Peptide Synthesizer

Ultra PurePep™ Pathway “inside”: The proprietary ultra PurePep Pathway is enhanced with a dedicated microfluidic matrix valve block pathway for each reaction vessel resulting in pure peptides.

- Maximum Throughput and Production
- Fast, Efficient Couplings
- High Quality Crude Peptides
- Extremely Flexible
- Automated Cleavage

8 SOLVENT POSITIONS

- Maximize flexibility
- 20 L solvent container (other sizes available upon request)
- Automated cleaning routines
- No calibration needed for viscosity
- Sensor driven constant volume deliveries

12 INDEPENDENT REACTION VESSEL PAIRS

- Up to 24 RVs with in situ activation
- Optional IR heating and/or UV monitoring in RV position 1
- Up to 12 RVs with pre-activation
- Adjustable nitrogen mixing
- Independent operation
- Top-down washing

IR HEATING

- Oscillation mixing ensures no hot spots
- Test the same protocol with and without heat
- Optimize process variables
- Precise temperature control



28 AND 12 ADDITIONAL AMINO ACID POSITIONS

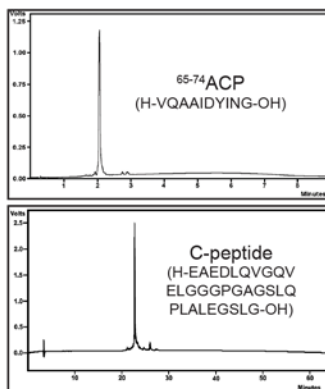
- 10, 120 and 400 mL sizes available
- Pre-packed amino acid bottles available
- Single-Shot™ deliveries
- Precise optical sensor delivery measurements
- Automated cleaning routines

REAL TIME UV MONITORING

- Monitors reaction in vessel and not the waste stream
- Extends deprotection time when needed
- Synthesize the right peptide the first time
- Increases yield and purity
- Reduces solvent consumption

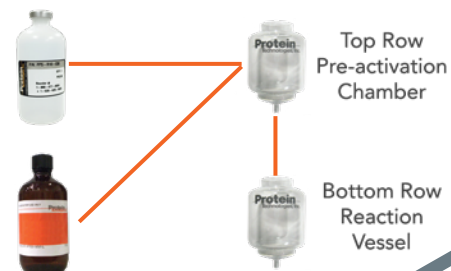
High Quality Performance

HIGH CRUDE PURITY PEPTIDES



PRE-ACTIVATION

Top row reaction vessels may be used as pre-activation chambers for bottom row reaction vessels



IN SITU

In situ activation can be accomplished by delivering amino acid to the reaction vessel first, followed by activator



Twenty-four 42-mers in 14 hours

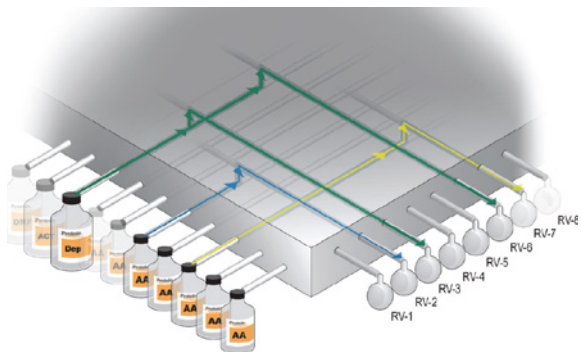
Deprotection Time:	2 min
Coupling time:	5 min
Total Synthesis Time, 24 Peptides:	14 hours

Twenty-four 68-mers in 25 hours

Deprotection Time:	4 min
Coupling time:	5 min
Total Synthesis Time, 24 Peptides:	25 hours

Innovative Features

ULTRA PUREPEP PATHWAY



This proprietary matrix valve block system was specifically designed to minimize dead volumes, eliminating cross contamination and delivering peptides with high crude purity.

Pos	Synthesis	RV	Program	Step	Reagent	Time	Rep	Action	Cleavage	Ch
1	START	ACT1_01.syn	RV	1	1	1	1	START	Load/Cleavage	
2	START	QA_101.syn	RV	1	1	1	1	START	Load/Cleavage	
3	START	QA_102.syn	RV	1	1	1	1	START	Load/Cleavage	
4	START	QA_103.syn	RV	1	1	1	1	START	Load/Cleavage	
5	START	QA_104.syn	RV	1	1	1	1	START	Load/Cleavage	
6	START	QA_105.syn	RV	1	1	1	1	START	Load/Cleavage	
7	START	QA_106.syn	RV	1	1	1	1	START	Load/Cleavage	
8	START	QA_107.syn	RV	1	1	1	1	START	Load/Cleavage	
9	START	QA_108.syn	RV	1	1	1	1	START	Load/Cleavage	
10	START	QA_109.syn	RV	1	1	1	1	START	Load/Cleavage	
11	START	QA_110.syn	RV	1	1	1	1	START	Load/Cleavage	
12	START	QA_111.syn	RV	1	1	1	1	START	Load/Cleavage	

AUTOMATED CLEAVAGE

- Customizable cleavage programs
- TFA resistant vessels
- Automated cleaning post cleavage
- 50 mL collection tube capacity
- Adjustable start times

SOFTWARE FEATURES

- Select sequence(s) and assign a program for each cycle
- Monitor progress of all reactions
- Customizable amino acid and solvent tables
- Good Laboratory Practice data recording, diagnostics and error reporting
- Flexible restart options for interrupted syntheses

SINGLE-SHOT

All positions can be used in Single-Shot mode. 12 positions may only be used as Single-Shots. Add expensive special reagents to any reactor without priming or wasting a drop. Save money with no manual interruption required.

SAFE-RESPONSE FEATURE

Keep your reactions safe during unexpected interruptions:

- Drain active reaction vessels if needed
- Wash resin with solvent of your choice
- Prevent side reactions and undesired by products

High Quality Chemicals, Amino Acids & Accessories

MAXIMIZE YOUR PERFORMANCE

Reliable Chemistries:

- Amino Acids, resins, activators, solvents and more:
 - Guaranteed weight, purity and quantity
 - All of our chemicals are 100% QC tested
 - 100% fully synthetic amino acids
 - Available in custom pack sizes

Total Solution Delivering Uncompromising Purity:

- Instrument Performance
 - Symphony X peptide synthesizers are optimized using our high quality chemistries
 - Minimize down time caused by clogging resulting from impure and unstable reagents
- Better Synthesis Results
 - Synthesize your peptide right the first time
 - Consistent quality reduces synthesis variability
 - Better yield and purity with high quality reagents
- Rapid and Reliable Setup
 - Start syntheses quickly with convenient, affordable, pre-weighed chemicals

STRENGTHEN YOUR SYMPHONY X

- Symphony X Start-Up Kits
 - Out-of-the box peptide synthesis reagents
 - 24 Plastic reaction vessels for simultaneous use
 - Pre-packed amino acids for test peptides
- Symphony X Pre-Packed Bottles
 - Ready-to-use amino acid bottles measured and QC tested
 - Sizes available in 5 mmol, 10 mmol and 20 mmol quantities
- Bulk Packaging
 - 25 gram, 100 gram, kilogram and custom lots available
 - Pseudoproline dipeptides available in bulk quantities
 - Deprotect and base solutions, pre-mixed and ready to run
 - TFA for cleaving and premium wash solvents available in various quantities

CUSTOMIZE YOUR SYMPHONY X

- We supply reaction vessels and amino acid bottles to provide added functionality and flexibility

Visit www.gyrosproteintechnologies.com and our webshop for all your peptide synthesis needs - amino acids, resins, coupling agents, solvents and more.



Symphony X Specifications

Number of reaction vessels	24 (12 with pre-activation)
Synthesis scale range	0.005* mmol - 24 mmol (up to ~2 g of resin per RV) *minimum deliveries 1 mL or 0.5 mL with Single-Shot
Reaction vessel volume	Plastic, disposable - 10 mL, 45 mL sizes Borosilicate glass - 10 mL, 40 mL
Number of solvent positions/sizes	1 primary solvent, 20 L capacity. Other sizes available 7 user-defined solvent positions, 0.5 - 8 L capacities, larger capacity vessels available
Number of amino acid positions	Up to 40 amino acid positions 10 mL, 120 mL and 400 mL bottles
Chemistries supported	Fmoc, t-Boc, organic, peptoid, combinatorial, branched, PNA
Activation	DIC/HOBt, DIC/OxymaPure, HBTU, HATU, HCTU, TBTU, PyBOP
Throughput	User defined
Fluid measurement technique	Fixed loop measurement with optical sensors
Fluid transfer method	Positive pressure with nitrogen
Agitation method	Nitrogen bubbling and/or oscillation mixing can be adjustable and programmable
Optional heating method	Induction heating with IR pyrometer temperature sensing
Cleavage	Automatic, programmable (for Fmoc chemistry only)
Waste container	(2) 20 L D.O.T rated containers with over-flow sensor in cap
Control interface	Proprietary Symphony X control software Internal CPU and touchscreen monitor included
Reporting	Real-time log file updated for every instrument function, print to external file, pull up on screen or printer
Power	115 V/60 Hz or 230 V/50 Hz
Dimensions	45"W, 29"D, 66"H (114 cm W, 74 cm D, 168 cm H)
Weight	550 lbs. (250 kg)
Warranty	One year, parts and labor
Optional	Infrared (IR) Heating UV monitoring

ORDERING INFORMATION

Catalog #	Description
SYM-X-110	Symphony X Peptide Synthesizer, 115 V
SYM-X-230	Symphony X Peptide Synthesizer, 230 V

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