

Initiator⁺ SP Wave

Microwave Peptide Synthesizer

Versatile Synthesis Solution

The **Biotage[®] Initiator⁺ SP Wave** is a programmable synthesizer that can be configured to perform either microwave assisted peptide or organic synthesis.

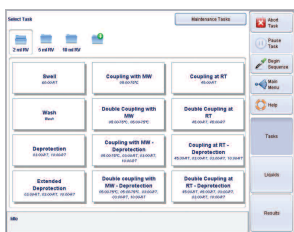
In peptide synthesis mode, this is the perfect tool for chemists synthesizing peptides and peptidomimetics, including difficult modifications and labeling of sequences, by using single or multi-step procedures. The intuitive Initiator 4.0 software controls the instrument functions and by using the pre-defined methods, synthesis can be started immediately.

Benefit from the ability to perform reactions using microwave irradiation on a small scale. The semi-automated operation also reduces the consumption and waste of expensive reagents which occur in other systems due to priming or use of large dead volumes.



Features and Advantages

- Microwave assisted peptide and organic synthesis
- Semi-automated
- Disposable 2, 5 and 10 mL PP-reactor vials with PTFE frits
- Synthesis on 5–300 μmol scale
- Large 10" touchscreen
- Inert gas capability
- Easy-to-use Initiator 4.0 software
- Use pre-defined methods or define your own
- Vortex mixing in peptide synthesis mode
- Magnetic stirring in organic synthesis mode
- Single robot arm and digital syringe pump



The intuitive interface provides complete control of the process



Perform small scale microwave synthesis by using single or multi-step procedures

Versatile

Use as a standalone peptide synthesizer or easily convert to a high specification MAOS system. Ideal for the synthesis of peptides, peptidomimetics, PNA and for organic, medicinal materials, nano and polymer chemistry applications.

Complete control

Automate the deprotection and washing steps and manually add activated building blocks to give the user complete control over all reaction steps. Easily monitor intermediate reaction steps, failure of which would only be identified upon completion of the synthesis.

Reduce costs

When using expensive reagents such as PNA monomers or glycoamino acids, you can manually add the exact amount of reagent while minimizing waste and costs. Save even more by benefiting from the ability to perform synthesis on a small scale from as low as 5 μmol .

Synthesize Difficult Sequences

Use microwave irradiation and standard reagents to synthesize difficult sequences that are problematic or even impossible to synthesize using conventional methods.

Dual Mode of Mixing

In peptide synthesis mode, use efficient vortex mixing within the microwave cavity to ensure homogeneous heat distribution, and by magnetic stirring when used in organic synthesis mode of operation.

Specifications

Heating Process

Temperature range	40-100 °C
Temperature increase	Typically 2–5 °C/sec
Pressure range	Run at atmospheric pressure
Power range	0–200 W at 2.45 GHz, capped at 60 W during steady state
Reactor vial sizes	2, 5 and 10 mL
Agitation	Variable vortex mixer (300-1300 rpm)
Vial volume range	2 mL reactor vial: 0.8–1.1 mL 5 mL reactor vial: 1.6–3.2 mL 10 mL reactor vial: 3.2–6.4 mL
Inert gas (optional)	Approx. 2 L/min (0.07 cubic feet/min), 2 bar (0.2 MPa; 29 PSI)

Liquid Handling

Syringe pump	Digital single syringe pump, 11 mL w. sample loop
Volume range	10 µl to 11 mL (<1.0% deviation at full stroke)
Flow rate	1-50 mL/min
Reagent Bottle Rack	3 x 100 mL
System solvent	1 x 2000 mL

Interfaces

Touch screen	10.4"
Ethernet LAN	Complies with IEEE 802.3 (ANSI 8802-3)
USB	USB 2.0
Archiving/back-up	Via USB
Printing	Via LAN

System requirements

Temperature	Operating Temperature: 18–32 °C Storage and transportation temperature: -25 °C to 60 °C
Humidity	20–95% at room temperature
Electrical supply	Europe: 220–240 V~, 50 Hz (5 A) US and Japan: 100–120 V~, 50/60 Hz (10 A)
Maximum power consumed	1100 VA
Weight	33 kg (72.7 lbs)
Dimensions (WxDxH)	400 x 500 x 685 mm (15.7" x 19.7" x 27.0")
Vacuum pump	Minimum partial pressure: 50 mbar (5 kPa; 0.7 PSI) Flow rate: 30 L/min (1.1 cubic feet/min)

Certifications CE, CSA certified

Ordering Information

Part Number	Description
356014	Initiator ⁺ SP Wave Microwave Peptide System (EU)
356015	Initiator ⁺ SP Wave Microwave Peptide System (USA/JPN)

Optional Accessories and Consumables

V020TF051	PP-Reactor, 2 mL, with PTFE frit, 100/pk
V050TF062	PP-Reactor, 5 mL, with PTFE frit, 100/pk
V100TF086	PP-Reactor, 10 mL, with PTFE frit, 100/pk
E001VP001	Vacuum pump ME2C, 100-230 VAC
356016	Waste and scrubber kit

Related Products



Initiator Peptide Workstation

The Biotage® Initiator Peptide Workstation is an accessory to perform manual microwave peptide synthesis and cleavage utilizing the Biotage Initiator microwave synthesizers.



Syro Wave™

The Biotage® Syro Wave is a programmable peptide synthesizer capable of both conventional room temperature parallel peptide synthesis and microwave assisted peptide synthesis. The system is a fully automated and computer controlled peptide synthesizer, based on a pipetting robot with a single arm.

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