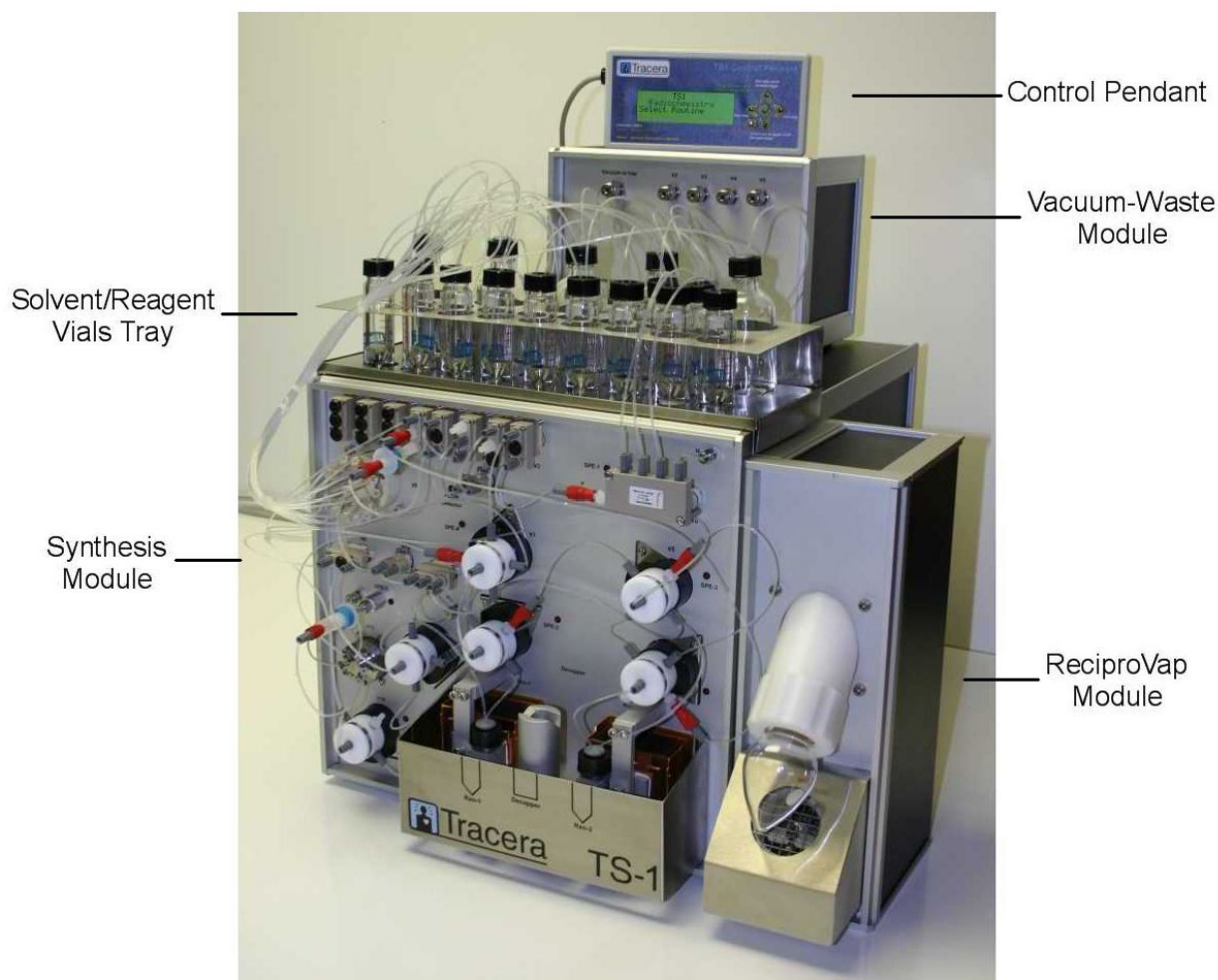




## TS-1 Radiochemistry Module

Simplifying Radiochemistry



### Flexible & Reliable Chemistries

The TS-1 module has capabilities to synthesize radiopharmaceuticals using a variety of isotopes and chemistries, including cyclotron and generator produced radioisotopes. The dual-reactor module isolates labeling intermediates and products using solid-phase extraction (SPE) or semi-preparative HPLC purification. Its functionality includes a leak test and a clean-cycle that cleanses the unit to ensure reliability of product with minimal long-term maintenance. An extensive R&D program ensured maximal flexibility of the system to produce a wide array of products. Reliability has been built into the software through constant status feedback of the control systems.

### Advanced Electronic Control & User Interface

The TS-1 module is computer-controlled by a notebook computer via a single USB interface cable. A small power supply unit provides power to all Tracera modules within the hot-cell. The HPLC pump and UV detector electronics are housed outside the hot-cell. A dedicated software interface allows both automatic and manual control of all operations. Parameters for automated synthesis are easily changed. Comprehensive reports are generated for documentation and analysis purposes. New synthetic procedures are developed quickly through a real-time parameter-recording feature. When

the program is in automatic mode, the manual controls shown on the screen activate in sequence so the operator can track the progress of the synthesis routine. User intervention can be disabled for controlled, cGMP production. A strip-chart plot of the radioactivity monitors and HPLC UV detector is provided for quality assurance purposes and for troubleshooting.

### **Radiopharmaceuticals**

<sup>18</sup>F: FDG, FHBG, Fluoro-fatty acids, FLT, FES, Fluorocholines, Peptides. <sup>11</sup>C: Choline, Methylations, acetate. <sup>68</sup>Ga: peptides/proteins

### **The TS-1 is the Future**

Excellent yield reproducibility

Maximal flexibility for complex, multi-step syntheses

Compact design fits in a mini hot-cell

User-friendly software interface for easy set up

Automated computer control

Novel safety features minimize manual handling

Reagent vials can be located outside hot cell for in-run accessibility

### **Key Features of the TS-1**

Two reactors (0-200°C) for multi-pot synthesis

Easily configurable plumbing and software for setting up new syntheses

Self-cleaning cycle for back-to-back runs without intervention

On-the-fly specific activity measurement

ReciproVap® for solvent evaporation

Manual control, moveable pendant for major process control functions

Column switching for multiple purification steps (optional)

### **Other Standard Features**

Formulation by trap-and-release or evaporation

Prep-HPLC and SPE purifications

cGMP compliant software

Teflon/PEEK tubing and valves

### **TS-1 Synthesizer Module Hardware Specifications:**

Main TS-1 Chassis 14" H x 14"W x 15"D (chassis), 17"W x 14.5"H x 21"D (est. clearance)

Vacuum Waste Module: 6" H x 9-5/8" W x 6-3/4"D (est. clearance)

ReciproVap: 12-1/2" H x 5-3/4" W x 8-1/2" D (est. clearance)

Power Requirements: 10A @115 VAC

Gas Requirements: Dry Nitrogen, 60 to 150 psi

### **Reaction Vessel Blocks Specifications:**

Temperature Range 0°C to +125°C using Topaz Reaction Vials

0°C to +225°C using PEEK Reaction Vials

Cooling Speed 150°C to 0°C in 5 min.

Heating Speed 0°C to +150°C in 3 min.

Reaction Vessel Volume: 3 mL (Topaz and PEEK vials), 10 mL (Glass Vial)

Stirring: Magnetic stirrer and/or programmable nitrogen bubbler

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**Radiosynthesis Systems / Radiopharmaceuticals Development**