

MALDI TOF-TOF Mass-spectrometer

General specifications:

A MALDI- TOF/TOF Mass spectrometer capable of operation in Positive and Negative ion Modes, precursor Ion selection, MS/MS mode operation with a collision cell

High repetition stable laser ($\geq 1\text{kHz}$) with capability to focus to 50 micron diameter.
Yag or solid state Laser with laser Life of $> 10^9$ shots.

Automatic ion source cleaning.

Sensitivity:

Linear Mode: Sensitivity for mass 66 kDa : 500 fM with S/N of 20 and above.

Reflector Mode:

Minimum of upper limit of mass: 12 kDa

Minimum mass resolution: 25,000 for a mass in the range of 1000–3500 Da.

Mass accuracy: Better than 5 ppm

Minimum sensitivity for mass 1000Da: 100 aM with S/N of 50 and above

MS/MS Mode:

Mass range: Lower = 100Da or less; Upper = 6000Da or more

Minimum mass resolution: 5000 or better

Mass accuracy: 50 ppm or less

Minimum sensitivity for mass 1000Da: 200 aM with S/N 20

Mass resolution of precursor ion gate selector: Better than unit resolution

Software for the mass spectrometer:

Suitable high performance PC workstations with greater than or equal to 8GB memory and all interfacing hardware and software for instrument(s) control, data acquisition and data processing. The operating

system to be based of Windows 7, 64bit OS with adequate features to transfer the data between other computers. The system should have compatibility for higher version of OS.

Complete software for instrument control, data acquisition, and post data processing.

MASCOT Search engine server for protein sequence databases and protein identification; search engine pre-installed on Single-CPU-Quad-Core Workstation with monitor, and MASCOT license for more than one user.

Software module compatible for multiplexing experiment, data mining, label-free and label-based protein analyses, glycan analysis, and PTM characterization.

MALDI sample plates:

Different types of sample plates that can be used with the instrument: 10 each

Matrices:

Sinapinic acid, α -cyanocinnamic acid, 4-hydroxy-3-methoxycinnamic acid, Picolinic acid----10.0g each

Consumable spares for 5 years with the list of spares and price for every year.

Necessary gas cylinders with double stage regulators.

Warranty for 5 years.

Optional items:

- 1) Adopter system for MALDI Imaging:** A package or adapter kit for automated MALDI imaging measurements. This package should include complete set of sample processing (matrix, peptide and protein standards, and automatic sprayer etc.), data acquisition and data processing software for the MALDI imaging-based proteomics applications using tissue samples. Results should be shown as color coded intensity plots and should be overlaid to an image of the analyzed sample. Additionally, the package/ adopter kit should be helpful for statistical analysis and evaluation.
- 2) Software with library for microbe, bacteria, etc. identification.**