

**DEPARTMENT OF MEDICINAL CHEMISTRY
MASS SPECTROMETRY CENTER - INSTRUMENTATION**

**Thermo Linear Trap Quadrupole - Fourier transform (Ion Cyclotron
Resonance) Mass Spectrometer LTQ-FT MS/MS**

Manufacturer: Thermo Electron Corp., San Jose, CA, USA
Magnet: actively shielded 7.0 Tesla superconducting magnet
Mass range: \approx 2000 Da (normal mode), 4000 Da (extended mode)
Resolution: Unit mass (LTQ MS)
 \approx 500,000 (FWHM)* at m/z 400, typically 100,000 [FT(ICR) MS]
Ionization (\pm eV): Electrospray Ionization (ESI)

Inlet Systems:

Liquid Chromatograph (LC):

Michrom MS4B multi-Dimensional Separations module
(Michrom BioResources, Auburn, CA)

Infusion:

Harvard Apparatus PHD 22/2000 syringe pump
(Harvard Apparatus, Inc., (Holliston, MA)

Nanospray *via* metal coated glass capillary:
(New Objective, Inc., Woburn, MA)

Sampling System:

Microm Endurance Bio-Cool Paradigm AS1 Autosampler
(Michrom BioResources, Inc.)

Data System (DS):

Hardware: Dell Optiplex GX270, Pentium 4, 2.8GHz, 1 Gbyte RAM

Software: Microsoft Windows^{XP},
Excalibur 2.0 SR1TM,
LTQ-FT MS 2.0 RC6,
Magic AutoSampler 2.0 & Paradigm MS4 2.0

Acquisition Date: 2004

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award: "Fourier transforms-ion cyclotron-resonance mass spectrometer".

Predominant Use:

Automated "shotgun" proteomic analysis - Combining nano-LC, data dependent MS/MS with high sensitivity (sub fmol on-column) and accurate mass measurement (2 ppm) for protein identifications in simple and complex protein mixtures. LC/MS/MS, label-free quantification, and accurate mass measurements.

*FWHM = full width at half height