

Advanced LC/MS Techniques and Applications

**Presented by Jack Henion, Ph.D.
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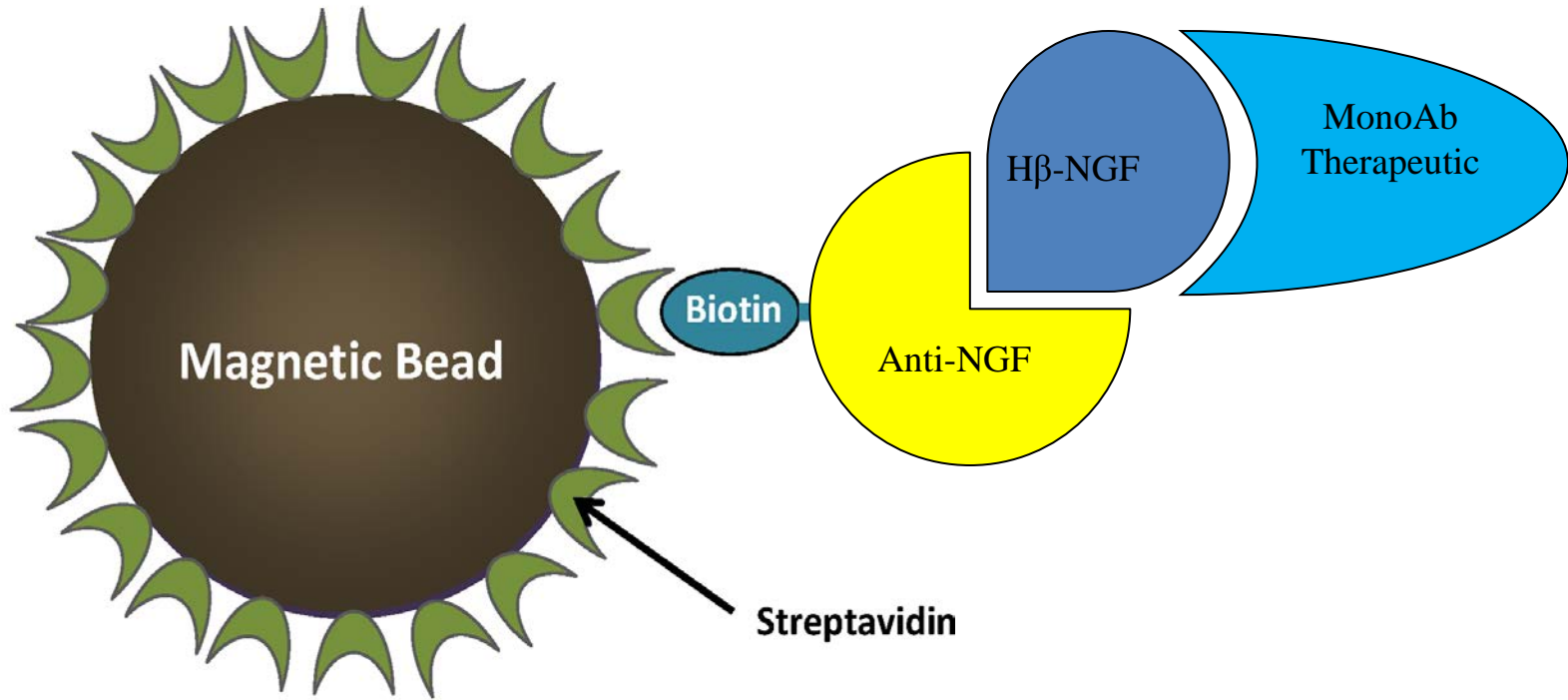
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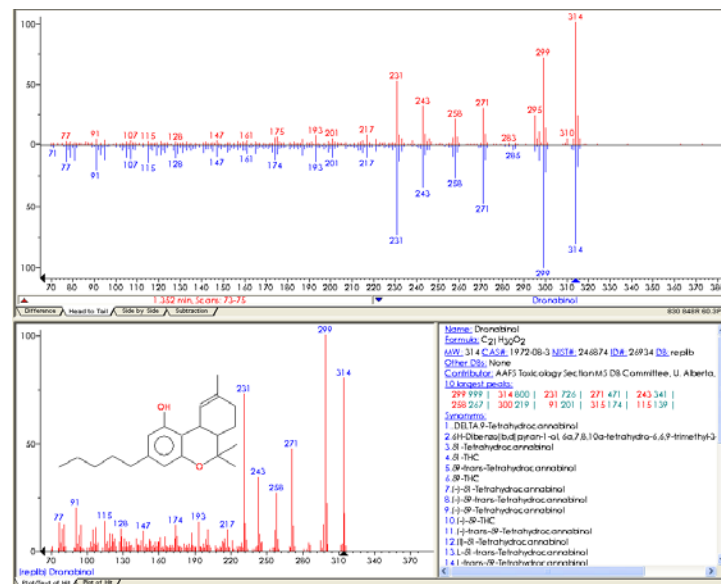
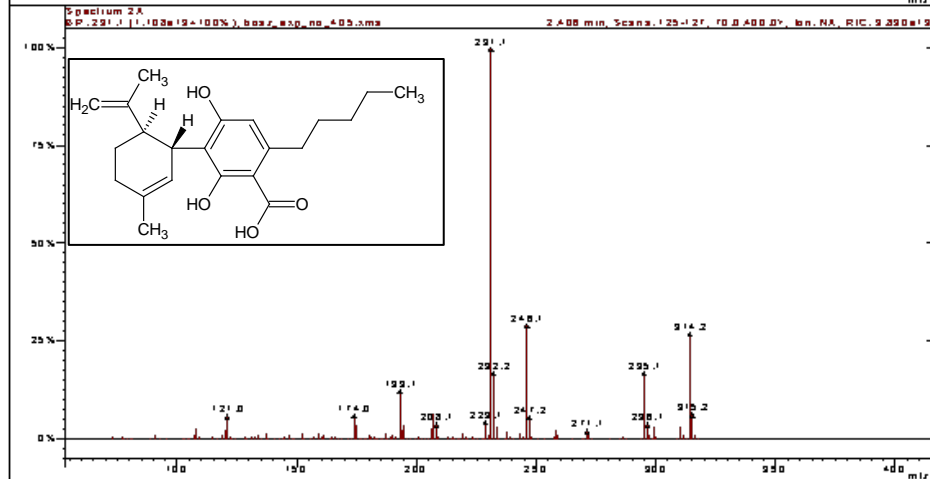
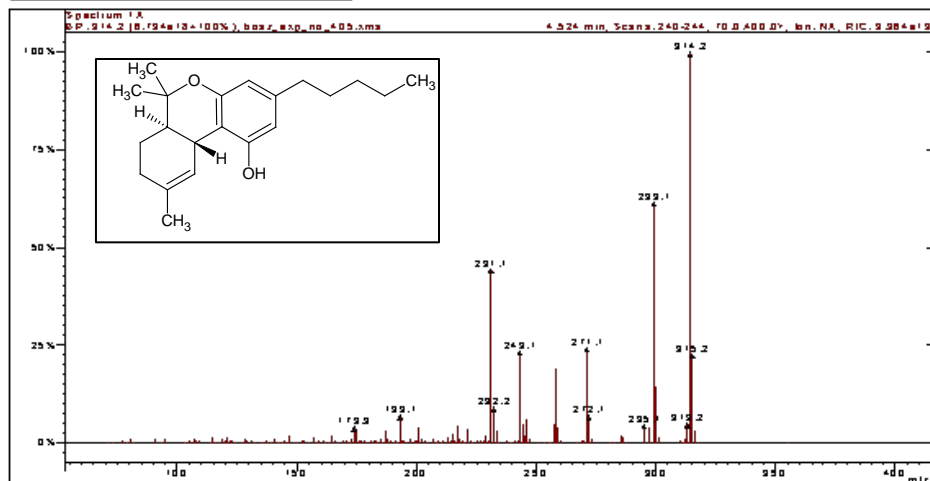
Immunoprecipitation for Selective Sample Preparation



- Streptavidin-coated magnetic beads are combined with the samples the following morning using a Hamilton MicroLab STAR
- A 16 Step immunoprecipitation extraction procedure is used to capture the biotinylated anti-NGF/h β -NGF
- The beads are washed and eluted by lowering the pH.

LC-Cold-EI-MS with a Supersonic Beam as an Alternative Ionization

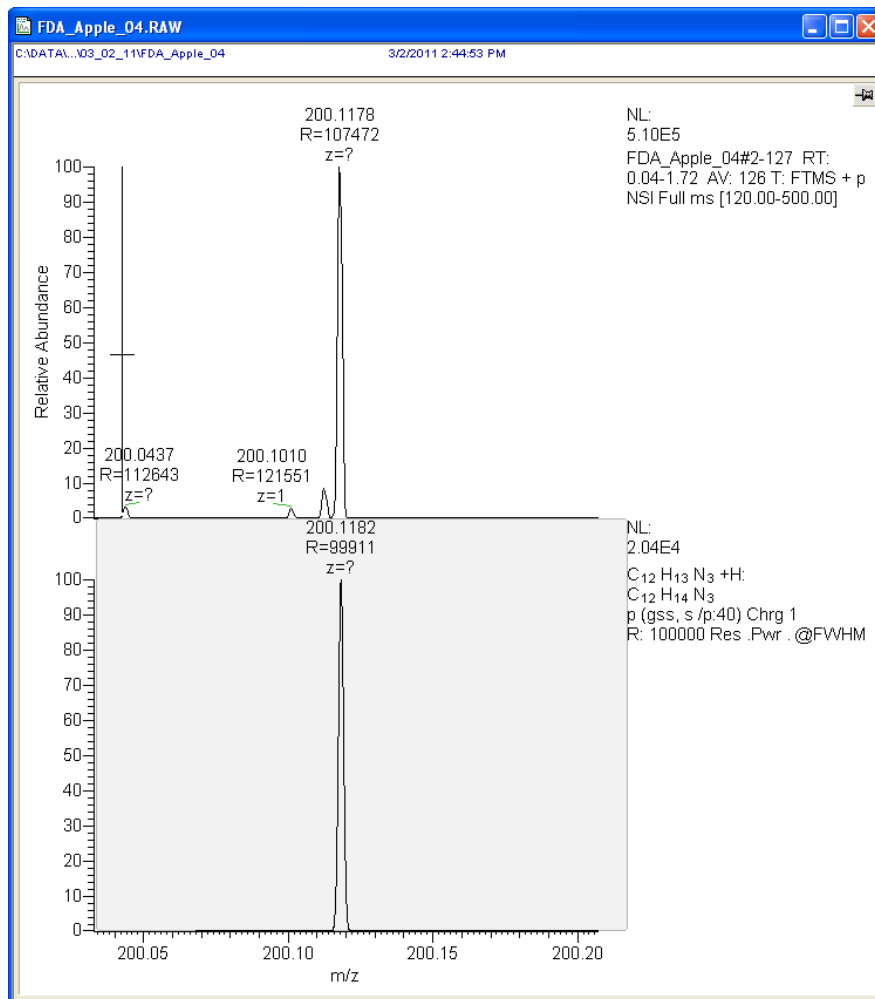
Spectra Plots - 30-Apr-14 15:15



Supersonic Molecular Beams and LC- 'Cold EI'- MS Literature:
 Granot O and Amirav A: LC-MS with Electron Ionization of Cold Molecules in Supersonic Molecular Beams. International Journal of Mass Spectrometry 2005 (244) 15-28
 Fialkov AB, Steiner U, Jones L and Amirav A: A New Type of GC-MS with Advanced Capabilities. International Journal of Mass Spectrometry 2006 (251) 47-58



HRAMS: Exactive Orbitrap – Apple (Pyrimethanil 169 ppb)

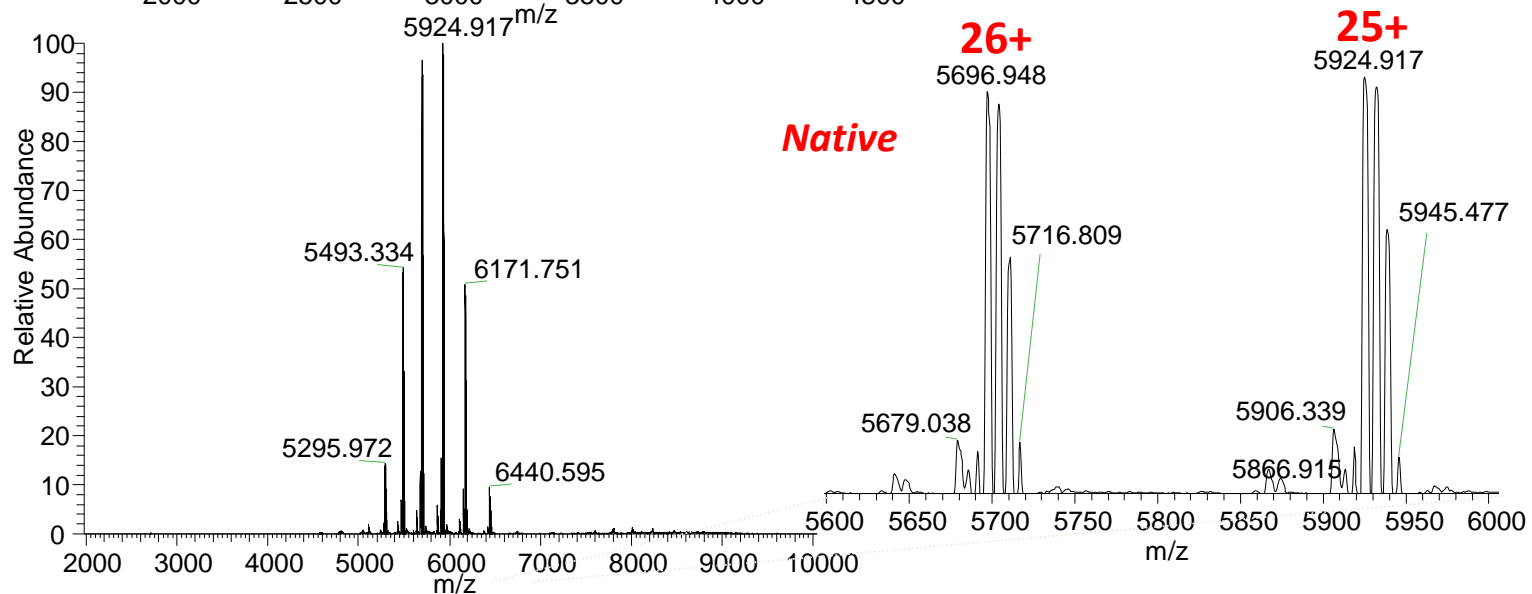
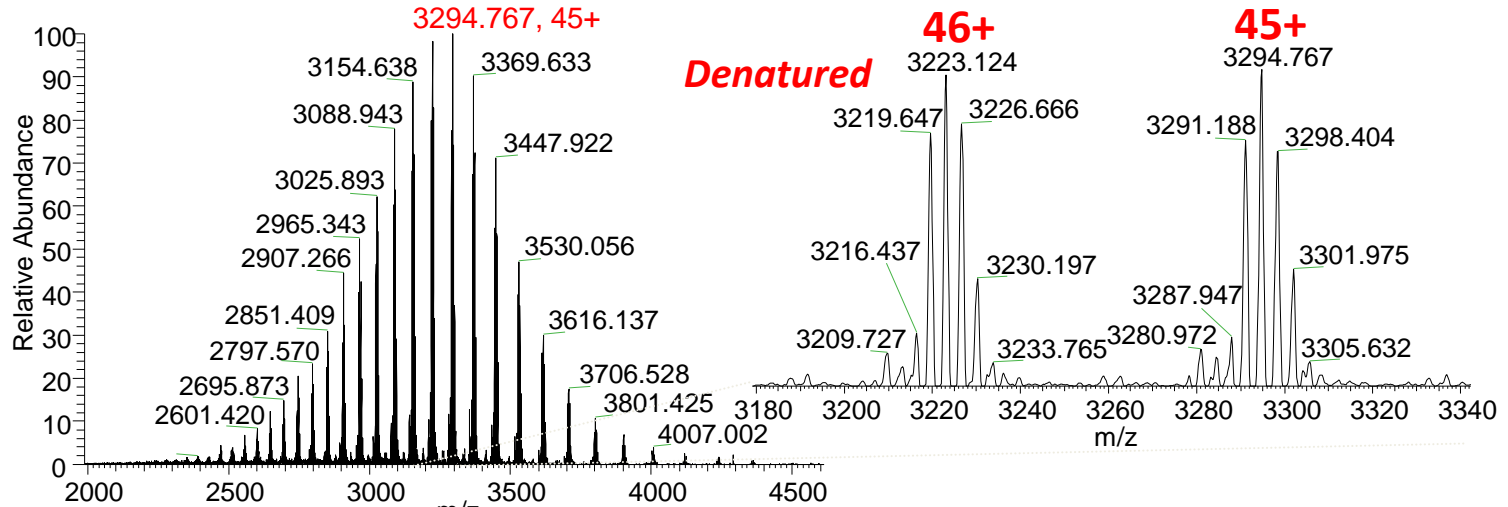


Identified with good signal (5e5) and 1.9 ppm deviation from theoretical mass

Pyrimethanil analytical standard

Top-down HRAM Bioanalysis of Native Proteins/Molecules

Multiply charged ions are simpler for native proteins



Transportable Mass Spectrometry

