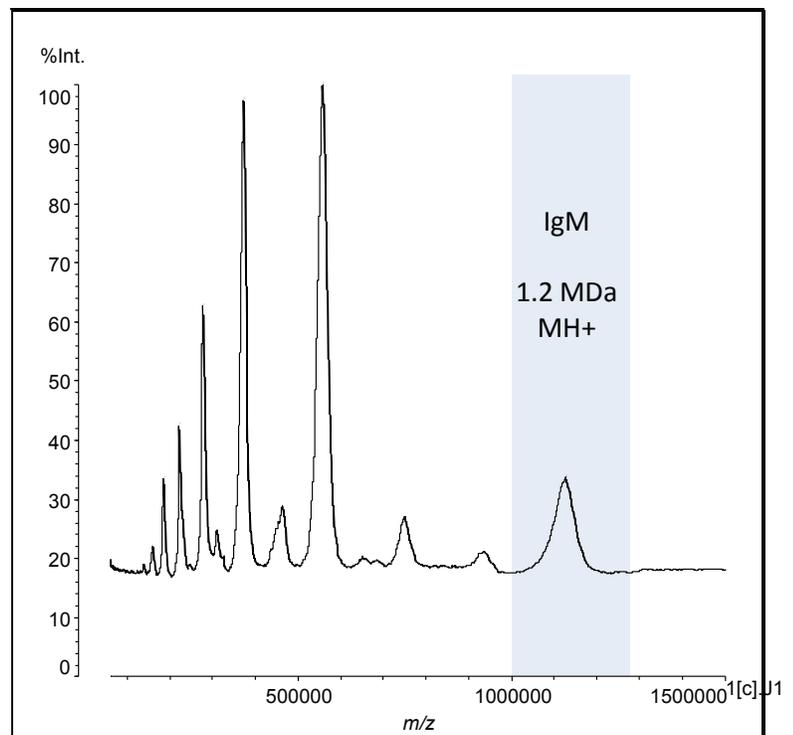


# Direct MegaDalton Measurement using AXIMA MegaTOF™

- High-sensitivity high mass detector (10 kDa -1.5 MDa)
- Conventional detector (electron multiplier) for low mass (<10 kDa)
- 15-second changeover time
- Stabilization of molecule using crosslinking reagent kits



Successful measurement of IgM at 1.1MDa using the AXIMA MegaTOF.



## Applications

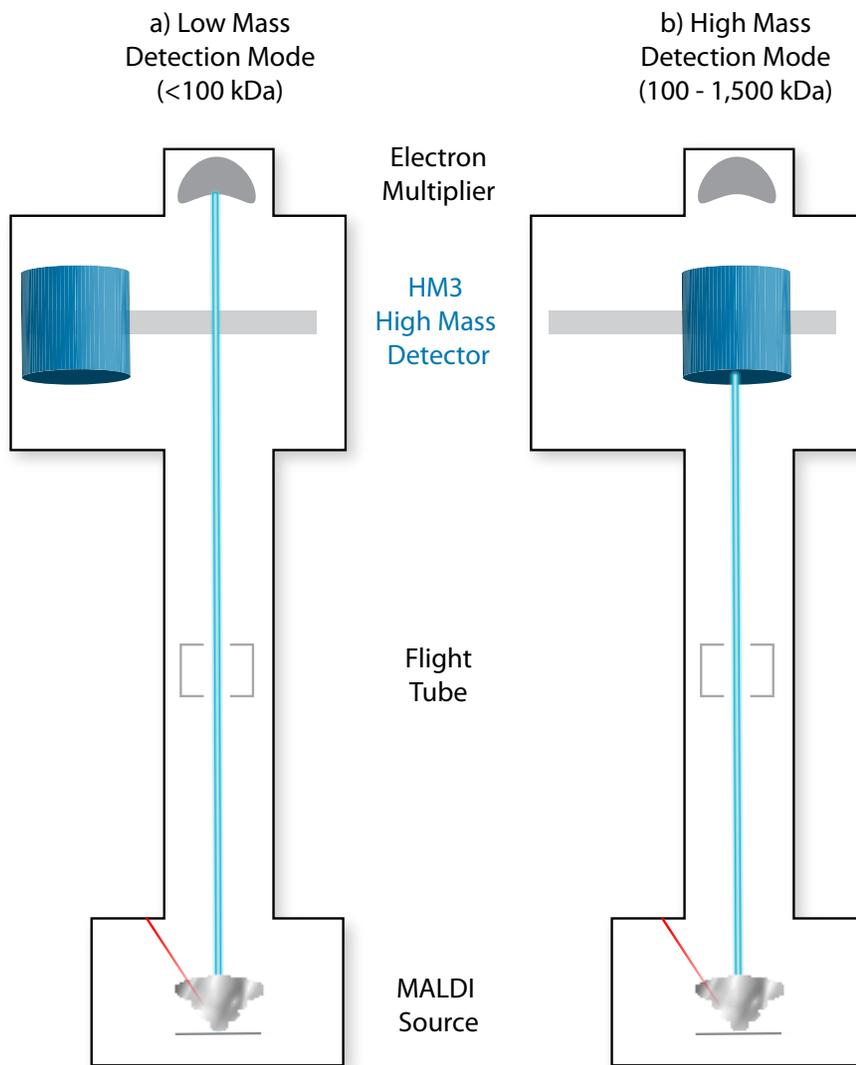
- **Antibody Characterization**
  - Antibody-Antigen interactions
  - Epitope mapping
  - Sandwich assays
- **Therapeutic Protein Aggregates**
- **Inhibitors of Protein-Protein Interactions**
- **Protein Complexes Characterization**
- **PEG Protein Characterization**
- **High-Mass MALDI Imaging**
- **Plasma Screening**
- **Polymer Analysis**

Shimadzu and CovalX have partnered to offer an integrated MALDI solution for ultra high-mass applications.

For more information, visit:

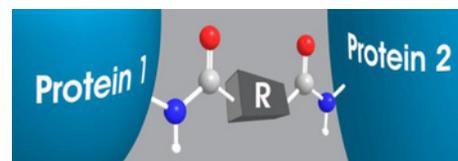
[www.ssi.shimadzu.com](http://www.ssi.shimadzu.com)

**AXIMA**  
**MegaTOF**



## MALDI Stabilization

To analyze intact protein complexes by High-Mass MALDI-TOF mass spectrometry, it is crucial to stabilize the complexes with highly efficient cross-linking reagents. CovalX has developed dedicated reagents and buffers to prepare non-covalent protein complexes for High-Mass MALDI analysis. To increase crosslinking efficiency, the reagents contain 'cocktails' of cross-linkers with different spacer lengths able to covalently bind specific protein complexes with a high degree of efficiency. The specificity of these cross-linking reagents facilitates the stabilization of covalent protein complexes even in contaminated or unpurified samples<sup>1</sup>.



1 "Reactivity and Applications of New Amine Reactive Cross-Linker for Mass Spectrometry Detection of Protein Complexes," Bich C., Maedler S., Chiesa K., DeGiacomo F., Bogliotti N., Zenobi R., Anal. Chem, 2010, 82 (1), 172-179.

Schematic of the MegaTOF™ system in a) low mass mode and b) high mass mode

- Standard detector remains
- Takes approximately 15 seconds to change positions
- Low saturation for complex mixtures

## AXIMA MegaTOF Detector

|                      |                |
|----------------------|----------------|
| Active area          | 19mm           |
| Acceleration Voltage | Typically 20kV |
| Gain Voltage         | Up to 4.5kV    |
| Mass range           | 0.2-1.5 MDa    |
| Response time        | 350ns          |
| Resolution           | 180 at 200kDa  |
| Limit of Detection   | 300nM IgM      |



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