



Genomics:GTL Center for Molecular and Cellular Systems: Mass Spectrometry



- **Purpose:**

- A major goal of DOE's Genomics:GTL program is the comprehensive characterization of "molecular machines" (a.k.a. protein complexes) in microbial systems.
- ORNL and PNNL, along with other collaborating institutions, have established the Center for Molecular and Cellular Systems to address this goal.
- Mass spectrometry (MS) is the primary tool for high-throughput identification of protein complexes currently being isolated from two model bacterial species: *Rhodopseudomonas palustris*, and *Shewanella oneidensis*. These species are important because of their potential for bioremediation and energy production.
- Research is underway to extend the capabilities of MS for deeper characterization of protein complexes, including quantitation and post-translational modifications.

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- **Sponsor:** U.S. DOE, Office of Biological and Environmental Research (FY2002-)

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