

# Elucidating the Molecular Basis of Chromium (IV) Reduction by *Shewanella oneidensis* MR-1

- **Purpose:**

- An important facet of understanding how the bacterium *Shewanella oneidensis* metabolizes chromium (IV) involves comprehensive characterization of the proteome of this organism under different growth conditions.
- State-of-the-art mass spectrometric approaches combined with multidimensional liquid chromatographic separations are being developed and implemented for these “shotgun” proteome measurements.
- Work in this project will involve both qualitative and quantitative proteome measurements.
- The longer term objective is to collaborate with biological colleagues to understand the resistance of *Shewanella oneidensis* to metal toxicity by using integrated biochemical, proteomic, and comparative genomics approaches.

*Shewanella oneidensis*



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