

Rebecca J. Abergel

Lawrence Berkeley National Laboratory
One Cyclotron Road, MS 70A-1150
Berkeley, CA 94720, USA

Phone: (+1 510) 486-5249
E-mail: rjabergel@lbl.gov
URL: <http://actinide.lbl.gov/gtsc/BioAn/>

Publications

- Deblonde, G.J.P.; Sturzbecher-Hoehne, M.; **Abergel, R.J.** Solution Thermodynamic Stability of Complexes Formed with the Octadentate Hydroxypyridinonate Ligand 3,4,3-LI(1,2-HOPO): A Critical Feature for Efficient Chelation of Lanthanide(IV) and Actinide(IV) Ions. *Inorg. Chem.* **2013**, *52*, 8805-8811.
- Sturzbecher-Hoehne, M.; Deblonde, G.J.P.; **Abergel, R.J.** Solution Thermodynamic Evaluation of Hydroxypyridinonate Chelators 3,4,3-LI(1,2-HOPO) and 5-LIO(Me-3,2-HOPO) for UO₂(VI) and Th(IV) Decorporation. *Radiochim. Acta* **2013**, *101*, 359-366.
- Deblonde, G.J.P.; Sturzbecher-Hoehne, M.; Mason, A.B.; **Abergel, R.J.** Receptor Recognition of Transferrin Bound to Lanthanides and Actinides: A Discriminating Step in Cellular Acquisition of f-Block Metals. *Metallomics* **2013**, *5*, 619-626.
- Bunin, D. I.; Chang, P. Y.; Doppalapudi, R. S.; Riccio, E. S.; An, D. D.; Jarvis, E. E.; Kullgren, B.; **Abergel, R. J.** Dose-Dependent Efficacy and Safety Toxicology of Hydroxypyridinonate Actinide Decorporation Agents in Rodents: Towards a Safe and Effective Human Dosing Regimen. *Rad. Res.* **2013**, *179*, 171-182.
- Sturzbecher-Hoehne, M.; Goujon, C.; Deblonde, G.J.P.; Mason, A.B.; **Abergel, R.J.** Sensitizing Curium Luminescence through an Antenna Protein to Investigate Biological Actinide Transport Mechanisms. *J. Am. Chem. Soc.* **2013**, *135*, 2676-2683.
- Kullgren, B.; Jarvis, E.; An, D.; **Abergel, R.J.** Actinide Chelation: Biodistribution and In Vivo Complex Stability of the Targeted Metal Ions. *Toxicol. Mech. Meth.* **2013**, *23*, 18-26.
- Jarvis, E. E.; An, D. D.; Kullgren, B.; **Abergel, R. J.** Significance of Single Variables in Defining Adequate Animal Models to Assess the Efficacy of New Radionuclide Decorporation Agents: Using the Contamination Dose as an Example. *Drug. Dev. Res.* **2012**, *73*, 281-289.
- Chang, P.Y.; Bunin, D.I.; Gow, J.; Swezey, R.; Shinn, W.; Shuh, D.K.; **Abergel, R.J.** Analytical Methods for the Bioavailability Evaluation of Hydroxypyridinonate Actinide Decorporation Agents in Pre-Clinical Pharmacokinetic Studies. *J. Chromatograph. Separat. Techniq.* **2011**, *S4*.
- Correnti, C.; Clifton, M.C.; **Abergel, R.J.**; Allred, B.; Hoette, T.M.; Ruiz, M.; Raymond, K.N.; Descalzi, F.; Strong, R.K. Galline Ex-FABP is an Antibacterial Siderocalin and a Lysophosphatidic Acid Sensor Functioning through Dual Ligand Specificities. *Structure* **2011**, *19*, 1796-1806.
- Sturzbecher-Hoehne, M.; Ng Pak Leung, C.; D'Aleo, A.; Kullgren, B.; Prigent, A.-L.; Shuh, D.K.; Raymond, K.N.; **Abergel, R.J.** 3,4,3-LI(1,2-HOPO): In Vitro Formation of Highly Stable Lanthanide Complexes Translates into Efficacious In Vivo Europium Decorporation. *Dalton Trans.* **2011**, *40*, 8340-8346.
- **Abergel, R. J.**; Raymond, K. N. Multidentate Terephthalamidate and Hydroxypyridonate Ligands: Towards New Orally Active Chelators. *Hemoglobin* **2011**, *35*, 276-290.
- **Abergel, R. J.**; Durbin, P. W.; Kullgren, B.; Ebbe, S.N.; Xu, J.; Chang, P. Y.; Bunin, D.; Blakely, E. A.; Bjornstad, K. A.; Rosen, C. J.; Shuh, D. K.; Raymond, K. N. Biomimetic Actinide Chelators: An Update on the Preclinical Development of Orally Active Hydroxypyridonate Decorporation Agents. *Health Phys.* **2010**, *99*, 401-407.
- Wilson, M. K.; **Abergel, R. J.**; Arceneaux, J. E. L.; Raymond, K. N.; Byers, B. R. Temporal Production of the Two *Bacillus anthracis* Siderophores, Petrobactin and Bacillibactin. *Biometals.* **2010**, *23*, 129-134.
- **Abergel, R. J.**; D'Aléo, A.; Ng Pak Leung, C.; Shuh, D. K.; Raymond, K. N. Using the Antenna Effect as a Spectroscopic Tool; Photophysics and Solution Thermodynamics of the Model Luminescent Hydroxypyridonate Complex [Eu^{III}(3,4,3LI(1,2-HOPO))]. *Inorg. Chem.* **2009**, *48*, 10868-10870.
- **Abergel, R. J.**; Zawadzka, A. M.; Hoette, T. M.; Raymond, K. N. Enzymatic Hydrolysis of Trilactone Siderophores: Where Chiral Recognition Occurs in Enterobactin and Bacillibactin Iron Transport. *J. Am. Chem. Soc.* **2009**, *131*, 12682-12692.
- Zawadzka, A. M.; **Abergel, R. J.**; Nichiporuk, R.; Andersen, U. N.; Raymond, K. N. Siderophore-mediated iron acquisition systems in *Bacillus cereus*: identification of receptors for anthrax virulence-associated petrobactin. *Biochemistry* **2009**, *48*, 3645-3657.
- Hoette, T. M.; **Abergel, R. J.**; Xu, J.; Strong, R. K.; Raymond, K. N. The Role of Electrostatics in Siderophore Recognition by the Immunoprotein Siderocalin. *J. Am. Chem. Soc.* **2008**, *130*, 17584-17592.

- **Abergel, R. J.;** Clifton, M. C.; Pizarro, J. C.; Warner, J. A.; Shuh, D. K.; Strong, R. K.; Raymond, K. N. The Siderocalin/Enterobactin Interaction: A Link between Mammalian Immunity and Bacterial Iron Transport. *J. Am. Chem. Soc.* **2008**, *130*, 11524-11534.
- **Abergel, R. J.;** Zawadzka, A. M.; Raymond, K. N. Petrobactin-Mediated Iron Transport in Pathogenic Bacteria: Coordination Chemistry of an Unusual 3,4-Catecholate/Citrate Siderophore. *J. Am. Chem. Soc.* **2008**, *130*, 2124-2125.
- **Abergel, R. J.;** Raymond, K. N. Terephthalamide-Containing Ligands: Fast Removal of Iron from Transferrin. *J. Biol. Inorg. Chem.* **2008**, *13*, 229-240.
- **Abergel, R. J.;** Wilson, M. K.; Arceneaux, J. E. L.; Hoette, T. M.; Strong, R. K.; Byers, B. R.; Raymond, K. N. The Anthrax Pathogen Evades the Mammalian Immune System Through Stealth Siderophore Production. *Proc. Natl. Acad. Sci.* **2006**, *103*, 18499-18503.
- Fischbach, M. A.; Lin, H.; Zhou, L.; Yu, Y.; **Abergel, R. J.;** Liu, D. R.; Raymond, K. N.; Wanner, B. L.; Strong, R. K.; Walsh, C. T.; Aderem, A.; Smith, K. D. The Pathogen-Associated *iroA* Gene Cluster Mediates Bacterial Evasion of Lipocalin 2. *Proc. Natl. Acad. Sci.* **2006**, *103*, 16502-16507.
- **Abergel, R. J.;** Moore, E. G.; Strong, R. K.; Raymond, K. N. Microbial Evasion of the Immune System: Structural Modifications of Enterobactin Impair Siderocalin Recognition. *J. Am. Chem. Soc.* **2006**, *128*, 10998-10999.
- Wilson, M. K.; **Abergel, R. J.;** Raymond, K. N.; Arceneaux, J. E. L.; Byers, B. R. Catecholate Siderophores of *Bacillus Anthracis*, *Bacillus Cereus*, and *Bacillus Thuringiensis*. *Biochem. Biophys. Res. Comm.* **2006**, *348*, 320-325.
- **Abergel, R. J.;** Warner, J. A.; Shuh, D. K.; Raymond, K. N. Enterobactin Protonation and Iron Release: Structural Characterization of the Salicylate Coordination Shift in Ferric Enterobactin. *J. Am. Chem. Soc.* **2006**, *128*, 8920-8931.
- **Abergel, R. J.;** Raymond, K. N. Synthesis and Thermodynamic Evaluation of Mixed Hexadentate Linear Iron Chelators Containing Hydroxypyridinone and Terephthalamide Units. *Inorg. Chem.* **2006**, *45*, 3622-3631.
- **Abergel, R. J.;** Dinca, M. 9,10-Dibromotriptycene. *Acta. Cryst. E* **2004**, *60*, O1248-O1249.