

G. Lynn Miesel, Ph.D.

Publications:

Research articles

Langsdorf, E., A. Malikzay, W. Lamarr, D. Daubaras, C. Kravec, R. Zhang, R. Hart, F. Monsma, T. Black, C. Ozbal, **L. Miesel** and C.A. Lunn. Screening for antibacterial inhibitors of the UDP-3-O-(R-3-hydroxymyristoyl)-N-acetylglucosamine deacetylase (LpxC) using a high throughput mass spectrometry assay. *In preparation*.

Miesel, L., S. Ma, C. Kravec, N. Brown, and T. Black. A high frequency of resistance emergence to inhibitors of bacterial DNA ligase. *In preparation*.

Miesel, L., C. Kravec, A. T. Xin, P. McMonagle, S. Ma, J. Pichardo, B. Feld, E. Barrabee, and R. Palermo. A high throughput assay for the adenylation reaction of bacterial DNA ligase. 2007. *Analytical Biochemistry*. 366: 9–17.

Madison, V., J. Duca, F. Bennett, S. Bohanon, A. Cooper, M. Chu, J. Desai, V. Girjavallabhan, R. Hare, A. Hruza, S. Hendrata, Y. Huang, C. Kravec, B. Malcolm, J. McCormick, **L. Miesel**, L. Ramanathan, P. Reichert, A. Saksena, J. Wang, P.C. Weber, H. Zhu, and T. Fischmann. Binding affinities and geometries of various metal ligands in peptide deformylase inhibitors. 2002. *Biophys. Chem.* 101–102: 239–47.

Chu, M., R. Mierzwa, L. He, L. Xu, F. Gentile, J. Terracciano, M. Patel, **L. Miesel**, S. Bohanon, C. Kravec, C. Cramer, T. Fischmann, A. Hruza, L. Ramanathan, P. Shipkova, and T. M. Chan. Isolation and structure elucidation of two novel deformylase inhibitors produced by *Streptomyces* sp. 2001. *Tetrahedron Lett.* 42: 3549–3551.

McNicholas, P.M., P.A. Mann, D.J. Najarian, **L. Miesel**, R.S. Hare, and T.A. Black. Effects of mutations in ribosomal protein L16 on susceptibility and accumulation of evernimicin. 2001. *Antimicrob. Agents Chemother.* 45: 79–83.

Miesel, L., T. Weisbrod, J.A. Marcinkeviciene, R. Bittman, and W.R. Jacobs, Jr. NADH dehydrogenase defects confer isoniazid resistance and conditional lethality in *Mycobacterium smegmatis*. 1998. *J. Bacteriol.* 180: 2459–2467.

Miesel, L. and J.R. Roth. Evidence that SbcB and “RecF pathway” functions contribute to RecBCD-dependent transductional recombination. 1996. *J. Bacteriol.* 178: 3146–3155.

Miesel, L., A.M. Segall, and J.R. Roth. Construction of chromosomal rearrangements in *Salmonella* by transduction: inversion of nonpermissive segments are not lethal. 1994. *Genetics* 137: 919–932.

Miesel, L. and J.R. Roth. *Salmonella recD* mutations increase recombination in a “short sequence” transduction assay. 1994. *J. Bacteriol.* 176: 4092–4103.

Review articles

Miesel, L., J. Greene, and T.A. Black. Genetic strategies for antibacterial drug discovery. 2003. *Nat. Rev. Genet.* 4: 442–456.

Miesel, L., D.A. Rozwarski, J.C. Sacchettini, and W.R. Jacobs, Jr. Mechanisms of isoniazid action and resistance. 1998. *Novartis Found. Symp.* 217: 209–220.

Roth, J.R., N. Benson, T. Galitski, K. Haack, J.G. Lawrence, and **L. Miesel**. Rearrangements of the bacterial chromosome: formation and applications. 1996. In *Escherichia coli and Salmonella: Cellular and Molecular Biology*. Ed. Frederic C. Neidhardt. (ASM Press, Washington D.C.) pp. 2256–2276.

Selected presentations:

- Screening LpxC (UDP-3-O-(R-3-hydroxymyristoyl)-GlcNAC deacetylase) using BioTrove RapidFire HTS Mass Spectrometry.* Coauthor on poster. SBS conference. Seattle, WA. 2006.
- Genetic strategies for antibacterial drug discovery.* Speaker. Analytical Genetics Conference. Aegean Conferences. Santorini, Greece. 2002.
- A high-throughput assay of bacterial DNA ligase for antibacterial drug discovery.* Coauthor on poster. The 42nd Interscience Conference on Antimicrobial Agents and Chemotherapy. San Diego, CA. 2002.
- Peptide deformylase of Staphylococcus aureus: a kinetic and structural comparison to the E. coli deformylase.* Poster. The 14th Symposium of the Protein Society. San Diego, CA. 2000.
- How does isoniazid kill mycobacteria?* Invited speaker. University of Illinois at Urbana-Champaign. 1998.
- Mechanisms for drug resistance in mycobacteria.* Invited speaker. Microbial genomes II: Sequencing, Functional Characterization and Comparative Genomics. Hilton Head Island, SC. 1998.
- Functional analysis of the mycobacterial genome.* Speaker. Novartis Foundation Open Meeting: Genetics and Tuberculosis. Cape Town, South Africa. 1997.
- NADH dehydrogenase defects confer conditional lethality and coresistance to isoniazid and ethionamide in mycobacteria.* Speaker and poster. American Society for Microbiology. Tuberculosis: Past, Present, and Future. Copper Mountain, CO. 1997.
- Transductional recombination in Salmonella.* Speaker. Cold Spring Harbor Laboratory: Molecular Genetics of Bacteria and Phages. Cold Spring Harbor, NY. 1993.