

Dr. Martin St. Maurice's Publications

- 2010** Duangpan, S., Jitrapakdee, S., Adina-Zada, A., Byrne, L., Zeczycki, T.N., St. Maurice, M., Cleland, W.W., Wallace, J.C. and Attwood, P.V. 2010. Probing the catalytic roles of Arg548 and Gln552 in the carboxyl transferase domain of the *Rhizobium etli* pyruvate carboxylase by site-directed mutagenesis. *Biochemistry*, **49**, 3296-3304.
- Zeczycki, T.N., St. Maurice, M., and Attwood, P.V. 2010. Inhibitors of pyruvate carboxylase, *Open Enz. Inhibit. J.* **3**, 8-26
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- At Marquette University
- 2009** Mera, P.E., St. Maurice, M., Rayment, I., and Escalante-Semerena, J.C. "Residue Phe112 of the human-type corrinoid adenosyltransferase (PduO) enzyme of *Lactobacillus reuteri* is critical to the formation of the four-coordinate Co(II) corrinoid substrate and to the activity of the enzyme" *Biochemistry* **48**, 3138-3145.
- Zeczycki, T.N., St. Maurice, M., Jitrapakdee, S., Wallace, J.C., Attwood, P.V., and Cleland, W.W. 2009. "Insight into the carboxyl transferase domain mechanism of pyruvate carboxylase from *Rhizobium etli*" *Biochemistry* **48**, 4305-4313
- 2008** Jitrapakdee, S., M. St. Maurice, I. Rayment, W.W. Cleland, J.C. Wallace, and P.V. Attwood,. 2008. Structure, mechanism and regulation of pyruvate carboxylase. *Biochem. J.*, **413**:369-387.
- St. Maurice, M., P. Mera, K. Park, T.C. Brunold, J.C. Escalante-Semerena, and I. Rayment. 2008. Structural characterization of a human-type corrinoid adenosyltransferase confirms that coenzyme B12 is synthesized through a four-coordinate intermediate. *Biochemistry*, **47**:5755-5766.
- 2007** Mera, P.E., M. St. Maurice, I. Rayment, and J.C. Escalante-Semerena. 2007. Structural and functional analyses of the human-type corrinoid adenosyltransferase (PduO) from *Lactobacillus reuteri*" *Biochemistry*, **46**:13829-13836.
- St. Maurice, M., L. Reinhardt, K.H. Surinya, P.V. Attwood, J.C. Wallace, W.W. Cleland, and I. Rayment. 2007. Domain architecture of pyruvate carboxylase, a biotin-dependent multifunctional enzyme. *Science*, **317**:1076-1079.
- St. Maurice, M., N. Cremades, M.A. Croxen, G. Sisson, J. Sancho and P.S. Hoffman. 2007. Flavodoxin: Quinone Reductase (FqrB): A redox partner of pyruvate:ferredoxin oxidoreductase that reversibly couples pyruvate oxidation to NADPH production in *Helicobacter pylori* and *Campylobacter jejuni*. *J. Bacteriol.*, **189**:4764-4773.
- St. Maurice, M., P.E. Mera, M.P. Taranto, F. Sesma, J.C. Escalante-Semerena, and I. Rayment. 2007. Structural characterization of the active site of the PduO-type ATP:Co(I)corrinoid adenosyltransferase from *Lactobacillus reuteri*. *J. Biol. Chem.*, **282**:2596-2605.
- 2005** Siddiqi, F., J.R. Bourque, H. Jiang, M. Gardner, M. St. Maurice, C. Blouin, and S.L. Bearne. 2005. Perturbing the hydrophobic pocket of mandelate racemase to probe phenyl motion during catalysis. *Biochemistry*, **44**:9013-9021.
- 2004** Brosseau, C.L., M. St. Maurice, S.L. Bearne, and S.G. Roscoe. 2004. Electrochemical quartz crystal nanobalance (EQCN) studies of the adsorption behaviour of an enzyme,

mandelate racemase, and its substrate, mandelic acid, on Pt. *Electrochim. Acta*, 50:1289-1297.

St. Maurice, M. and S.L. Bearne. 2004. Hydrophobic nature of the active site of mandelate racemase. *Biochemistry*, 43:2524-2532.

2003 St. Maurice, M., S.L. Bearne, W. Lu, and S.D. Taylor. 2003. Inhibition of mandelate racemase by α -fluorobenzylphosphonates. *Bioorg. Med. Chem. Lett.*, 13:2041-2044.

2002 St. Maurice, M. and S.L. Bearne. 2002. Kinetics and thermodynamics of mandelate racemase catalysis. *Biochemistry*, 41:4048-4058.

2002 St. Maurice, M. and S.L. Bearne. 2000. Reaction intermediate analogues for mandelate racemase: interaction between Asn 197 and the α -hydroxyl of the substrate promotes catalysis. *Biochemistry*, 39:13324-13335.

1999 Bearne, S.L., M. St. Maurice, and M.D. Vaughan. 1999. An assay for mandelate racemase using high performance liquid chromatography. *Anal. Biochem.*, 269:332-336.