Curriculum vitae

CHRISTOPHER J. PADDON, Ph.D.

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PROFESSIONAL EXPERIENCE

Amyris Inc. (5885 Hollis St, Suite 100, Emeryville, CA 94608):
Principal Scientist Jul 2008- present
Senior Scientist Feb. 2005- Jul 2008

Project Leader of the Semi-Synthetic Artemisinin project and a number of internal projects.
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Member, Biology management committee.

Xenoport, Inc. (Santa Clara, CA):
Senior Scientist 2001-2004.

Affymax Research Institute (Santa Clara, CA):
Research Fellow 2000-2001.
Senior Scientist 1995-2000.

Group leader of "Genetics / genomics" group

Glaxo Group Research, (Greenford, U.K.):
Principal Scientist, 1990-1995; **Senior Scientist** 1989-1990

Laboratory of Molecular Genetics, NICHD, NIH (Bethesda, MD):
Visiting Associate 1986-1989

Laboratory of Cellular and Developmental Biology, NIADDK, NIH (Bethesda, MD):
Visiting Fellow, 1983-1986

Education

Ph.D. 1983, Imperial College, University of London, UK. "A genetic investigation of methylotrophic metabolism."

B.Sc. (IIi, honors), 1978. University of Surrey, U.K. Major in Microbiology.

Nationality

USA

Professional membership

Genetics Society of America

Publications

Tsuruta, H., Paddon, C.J., Eng, D., Lenihan, J.R., Horning, T., Anthony, L.C., Regentin, R., Keasling, J.D., Renninger, N.S., and Newman, J.D.: High-level production of amorpha-4,11-diene, a precursor of the antimalarial agent artemisinin, in Escherichia coli. PLoS One . (2009) 4(2); e4489

Ro, D.K., Ouellet, M. Paradise, E.M., Burd, H., Eng, D,. Paddon, C.J., Newman, J.D. and Keasling, J.D.: Induction of multiple pleiotropic drug resistance genes in yeast engineered to produce an increased level of anti-malarial drug precursor, artemisinic acid. BMC Biotechnol. 4:8:83 (2008)

Pitera, DJ, Paddon, C.J., Newman, J.D. and Keasling, J.D.: Balancing a heterologous mevalonate pathway for improved isoprenoid production in *Escherichia coli*. Metab. Eng. 9 (2007) 193-207.

Helmann, J.D., Wu, M.F., Gaballa, A., Kobel, P.A., Morshedi, M.M., Fawcett, P. and Paddon, C.J.: The global transcriptional response of Bacillus subtilis to peroxide stress is coordinated by three transcription factors. J Bacteriol 185 (2003) 243-53.

Cao, M., Kobel, P.A., Morshedi, M.M., Wu, M.F., Paddon, C., and Helmann, J.D.: Defining the Bacillus subtilis sigma(W) regulon: a comparative analysis of promoter consensus search, run-off transcription / macroarray analysis (ROMA), and transcriptional profiling approaches.: J Mol Biol 316 (2002) 443-57.

Helmann, J.D., Wu, M.F., Kobel, P.A., Gamo, F.J., Wilson, M., Morshedi, M.M., Navre, M., and Paddon, C.J.: Global transcriptional response of Bacillus subtilis to heat-shock. J Bacteriol 183 (2001) 7318-28.

Brown, A.J., Dyos, S.L., Whiteway, M.S., White, J.R., Watson, M.A., Marzioch, M., Clare, J.J., Cousens, D.J., Paddon, C., Plumpton, C., Romanos, M.A. and Dowell, S.J.: Functional coupling of mammalian receptors to the yeast mating pathway using novel yeast/mammalian G protein alpha-subunit chimeras. Yeast 16 (2000) 11-22.

Hughes, W.E., Pocklington, M.J., Orr, E. and Paddon, C.J.: Mutations in the Saccharomyces cerevisiae gene SACI cause multiple drug sensitivity. Yeast 15 (1999) 1111-24.

Oldenburg, K.R., Vo, K. T., Michaelis, S. and Paddon, C.: Recombination-mediated PCR- directed plasmid construction in vivo in yeast. Nucleic Acids Res 25 (1997) 451-2.

Paddon, C., Loayza, D., Vangelista, L., Solari, R. and Michaelis, S.: Analysis of the localization of STE6/CFTR chimeras in a Saccharomyces cerevisiae model for the cystic fibrosis defect CFTR delta F508. Mol Microbiol 19 (1996) 1007-17.

Bushman, J.L., Foiani, M., Cigan, A.M., Paddon, C.J. and Hinnebusch, A.G.: Guanine nucleotide exchange factor for eukaryotic translation initiation factor 2 in Saccharomyces cerevisiae: interactions between the essential subunits GCD2, GCD6, and GCD7 and the regulatory subunit GCN3. Mol Cell Biol 13 (1993) 4618-31.

Foiani, M., Cigan, A.M., Paddon, C.J., Harashima, S. and Hinnebusch, A.G.: GCD2, a translational repressor of the GCN4 gene, has a general function in the initiation of protein synthesis in Saccharomyces cerevisiae. Mol Cell Biol 11 (1991) 3203-16.

Paddon, C.J., Hannig, E.M. and Hinnebusch, A.G.: Amino acid sequence similarity between GCN3 and GCD2, positive and negative translational regulators of GCN4: evidence for antagonism by competition. Genetics 122 (1989) 551-9.

Paddon, C.J. and Hinnebusch, A.G.: gcd12 mutations are gcn3-dependent alleles of GCD2, a negative regulator of GCN4 in the general amino acid control of Saccharomyces cerevisiae. Genetics 122 (1989) 543-50.

Paddon, C.J., Vasantha, N. and Hartley, R. W.: Translation and processing of Bacillus arnyloliquefaciens extracellular RNase. J Bacteriol 171 (1989) 1185-7.

Paddon, C.J. and Hartley, R. W.: Expression of Bacillus amyloliquefaciens extracellular ribonuclease (barnase) in Escherichia coli following an inactivating mutation. Gene 53 (1987) 11-19.

Hartley, R.W. and Paddon, C.J.: Use of plasmid pTV1 in transposon mutagenesis and gene cloning in Bacillus amyloliquefaciens. Plasmid 16 (1986) 45-51.

Paddon, C.J. and Hartley, R.W.: Cloning, sequencing and transcription of an inactivated copy of Bacillus amyloliquefaciens extracellular ribonuclease (barnase). Gene 40 (1985) 231-9.

Paddon, C.J., Payton, M.A. and Hartley B.S.: The effect of growth substrate on the levels of citric acid cycle enzymes in the facultative methylotroph Arthrobacter 2B2. J Basic Microbiol 25 (1985) 73-76.

Patents

Dower, W.J., Gates, C.M., Heinkel, G.L., Lalonde, G., Mattheakis, L.C., Paddon, C.J., Schatz, P.J.: Use of modified tethers in screening compound libraries. Patent No. US 6,309,842 B1. Issued 10/30/2001.

Renninger, N.S., Newman, J., Reiling, K.K., Regentin, R., Paddon, C.J..: Production of isoprenoids. Patent No. US 7,659,097. Issued 02/09/2010

Scientific Presentations

"Production of artemisinic acid, precursor to artemisinin and of the potent antimalarial combination therapies, by yeast" **Physiology of Yeast and Filamentous Fungi 3** (Helsinki, Finland; June 2007)

"The semi-synthetic artemisinin project: engineering yeast to produce a precursor of artemisinin" **Sustainable solutions, focus on Africa** (Delft University of technology, Netherlands; October 2007)

"Microbially-derived semi-synthetic artemisinin" **Metabolic Engineering VII** (Puerto Vallarta, Mexico; September 2008)

"Synthetic Biology for the production of artemisinin, a component of potent antimalarial combination therapies" **Applied Industrial synthetic Biology in Europe** (Freiburg, Germany; April 2009)

"Microbially-derived semi-synthetic artemisinin: Engineering yeast to produce artemisinic acid, precursor of the potent antimalarial drug artemisinin" **27th International Specialized Symposium on Yeasts** (Pasteur Institute, Paris, France; August 2008)

"Microbially-derived semi-synthetic artemisinin:Using synthetic biology to stabilize the supply of an important anti-malarial drug in the developing world" **Synthetic Biology in Pharma conference** (Cambridge, UK; March 2010)

"Semi-synthetic artemisinin from yeast: A crucial role for novel Artemisia annua enzymes in the high-level production of artemisinic acid" **Physiology of Yeast and Filamentous Fungi 4** (Rotterdam, Netherlands; June 2010)

"Semi-synthetic artemisinin: Production of Amorpha-4,11-diene and Artemisinic Acid in E.coli and Yeast" **Terpnet 2011** (Kalmar, Sweden; May 2011)

Invited lectures

"Microbially-derived semi-synthetic artemisinin:Using synthetic biology to stabilize the supply of an important anti-malarial drug in the developing world" **Plant Biotechnology Institute, Sasakatoon, Canada** (October 2009)

"Microbially-derived artemisinin: Engineering microbes to produce artemisinic acid, precursor of the potent antimalarial drug artemisinin" **Touro College of Pharmacy** (New York, NY; October 2009)

"Microbially-derived artemisinin: Engineering microbes to produce artemisinic acid, precursor of the potent antimalarial drug artemisinin" **Rockefeller University** (New York, NY; October 2009)

"Microbially-derived artemisinin: Engineering microbes to produce artemisinic acid, precursor of the potent antimalarial drug artemisinin" **Weill Cornell Medical College** (New York, NY; October 2009)

"Microbially-derived semi-synthetic artemisinin:Using synthetic biology to stabilize the supply of an important anti-malarial drug in the developing world" **Santa Clara University** Santa Clara, CA; February 2011)

"Microbially-derived semi-synthetic artemisinin:Using synthetic biology to stabilize the supply of an important anti-malarial drug in the developing world" **California Polytechnic State University** (San Luis Obispo, CA; February 2011)