Physiological and cytochemical studies on an oxalic acid-producing enzyme, glyoxylate dehydrogenase, of copper-tolerant wood-rot fungus *Fomitopsis palustris*

Kumiko Okawa
Laboratory of Metabolic Science of Forest Plants and Microorganisms, RISH, Kyoto University

Brown-rot fungus *Fomitopsis palustris* accumulates large amounts of oxalate during wood decay. The fungus detoxifies copper-containing wood preservatives by forming insoluble copper oxalate. In addition, *F. palustris* acquires biochemical energy for growth by oxalate biosynthesis. Thus, the elucidation of mechanism for oxalate biosynthesis is important for the understanding of carbon metabolism of the fungus and the development of new wood preservatives.

The oxalate formation is catalyzed by oxaloacetase (OXA, EC 3.7.1.1) and cytochrome *c*-dependent glyoxylate dehydrogenase (GLOXDH) in *F. palustris*. In this study the authors attempted to elucidate a possible role of GLOXDH in the fungal growth under the gluconeogenetic condition. Furthermore, the subcellulare localization of the GLOXDH in *F. palustris* was investigated by immunoelectronmicroscopy.