

Evaluation of potential compatible co-partner for lignin degrader *Irpex lacteus*

Mitu Mewada, Bhavika Pandya & Susy Albert*

Department of Botany, Faculty of Science, The Maharaja Sayajirao University of Baroda, Vadodara -390 002, Gujarat, India

Received 09 August 2016; revised 27 July 2018

Biological agents are important alternative to chemical agents in pulping and bleaching process of paper industry. *Irpex lacteus*, a white rot fungus with a great biotechnological potential, is currently considered the most important lignocellulose degrading organism because of its potential to degrade lignin and bioremediate other lignin related pollutants. Experimental evidences of mixed cultures/co-cultures of fungal isolates suggest improved ligninolytic activity compared to monocultures. Here, we explored potential compatible fungal co-partner for *Irpex lacteus* to produce enhanced ligninolytic enzymes. Results of paired interaction test showed that among the eleven fungal isolates evaluated, *I. lacteus* was compatible with three species of *Pleurotus*, *Phellinus* and *Daedaleopsis confragosa*. The results suggest the above three fungal isolates to be potential fungal partner for *I. lacteus* in co-culturing for efficient lignin degradation and biobleaching in pulp and paper industries.

Keywords: Basidiomycetes, Biobleaching, *Daedaleopsis confragosa*, Ligninolytic enzymes, Paper industry, *Pleurotus*, *Phellinus*, Pulping, White rot fungi