

Hyatt Regency Denver | Denver, CO | July 29 - August 2, 2007

SIM Annual Meeting & Exhibition

Dedicated to the industrial application of microbiology & biotechnology

2007

Monday, July 30, 2007**P74****Rapid screening of statin-producing filamentous fungi**

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Hypercholesterolemia, an important risk factor in coronary artery disease, is nowadays commonly treated with statins. They are a class of fungal secondary metabolites that can inhibit the *de novo* synthesis of endogenous cholesterol by means of the competitive inhibition of HMG-CoA reductase. From 14-day-old fungal cultures cultivated at 20°C on lactose-yeast extract agar medium, statins were extracted with ethyl acetate at 50°C for 20 min with agitation. Two different methods were applied: a) Glass beads disruption: mycelium-covered agar plugs were transferred to a test tube and subsequently treated with glass beads and ethyl acetate. b) Freeze-thawing: mycelium-covered agar plugs were frozen overnight and, after thawing, supernatant was recovered by centrifugation and mixed with an equal volume of ethyl acetate. Presence of statins in the organic phase was simultaneously evaluated by both thin layer chromatography (TLC) and a bioassay based on the yeast growth-inhibitory effect (either with *Candida albicans* or *Saccharomyces cerevisiae*). For bioassay, actively growing yeasts were included in molten YNB agar medium, poured into plates and get solidified. Statin extracts (25 ml) were poured into 6mm-diam. wells and compared to standard statins. After incubation at 26°C, inhibition haloes formation was assessed.

Results according to both methodologies revealed that 23 isolates from 230 filamentous fungi collected from Las Yungas (Tucumán, Argentina) would be able to produce bioactive compounds compatible with statins. Applied protocols showed to be valid at the time of selecting statin-producers, allowing high sensitivity and readily available results in association with the ease of sample processing.

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