Latin American Journal of Pharmacy
(formerly *Acta Farmacéutica Bonaerense)*
Lat. Am. J. Pharm. **30** (3): 496-501 (2011)

Original Article
Received: May 5, 2010
Revised version: July 28, 2010
Accepted: July 30, 2010

Production and Optimization of Mevastatin by *Penicillium citrinum* MTCC 1256 and Effect of Citrinin on Growth of *Actinomadura* Strains

Ajaz AHMAD, Mohd MUJEEB & Bibhu P. PANDA*

Pharmaceutical Biotechnology Laboratory, Faculty of Pharmacy,
Jamia Hamdard, New Delhi, India-110062

SUMMARY. The aim of the present research was to study the optimisation of mevastatin production by *Penicillium citrinum* MTCC 1256. Optimization of fermentation medium was carried out by response surface methodology. Simultaneous estimation of mevastatin and citrinin was carried out by high performance thin layer chromatography. Glycerol and peptone were shown to be the best carbon and nitrogen source for mevastatin production by *P. citrinum*. Under optimized culture medium containing glycerol 10.94 g.l^{-1}, peptone 8.32 g.l^{-1}, $CaCl_2$ 0.53 g.l^{-1}, $MgSO_4$ 0.52 g.l^{-1} and KH_2PO_4 0.049 g.l^{-1} resulted in a maximal mevastatin production of 522.5 mg.l^{-1}. Growth inhibited effect of citrinin on actinomycetes was measured in terms of colony forming unit (CFU). There is a decrease in CFU of *Actinomadura madura* and *Actinomadura livida* with the increase in citrinin concentration. In terms of citrinin production, an 8-day fermentation would be preferable to a 14-day period, for the eventual bioconversion of mevastatin to pravastatin, since under these conditions spent broth would be free of this inhibitory product.

KEY WORDS: Actinomedura sp., Citrinin, Mevastatin, Optimization, *Penicillium citrinum*.

* Author to whom correspondence should be addressed. *E-mail:* bibhu_panda31@rediffmail.com

ISSN 0326-2383