

**Isolation, screening of endoglucanase producing
actinomycetes and identification of the potent isolate
B-PN23**

Estelle Legin, Streptomyces Streptomyces

► **To cite this version:**

Estelle Legin, Streptomyces Streptomyces. Isolation, screening of endoglucanase producing actinomycetes and identification of the potent isolate B-PN23. Environmental Engineering and Management Journal, Ecozone, 2017, 16 (10), pp.2231-2238. hal-03278618

HAL Id: hal-03278618

<https://hal.inrae.fr/hal-03278618>

Submitted on 5 Jul 2021

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.



“Gheorghe Asachi” Technical University of Iasi, Romania



ISOLATION, SCREENING OF ENDOGLUCANASE PRODUCING ACTINOMYCETES AND IDENTIFICATION OF THE POTENT ISOLATE B-PNG23

Azzeddine Bettache^{1,2}, Abdelaziz MESSIS¹, Estelle Copinet², Mouloud Kecha¹,
Nawel Boucherba^{1,2}, Nabila Belhemiche^{1,2}, Francis Duchiron², Said Benallaoua^{1*}

¹Laboratoire de Microbiologie Appliquée, Faculté des Sciences de la Nature et de la Vie, Université de Bejaia,
06000 Bejaia, Algérie

²Université de Reims Champagne-Ardenne, UMR614 Fractionnement des AgroRessources et Environnement,
B.P. 1039, F-51687 Reims cedex 2, France

Abstract

A total of 152 different actinomycetes isolates were recovered from samples that were collected from different ecosystems of Algeria. The desert soil of Bousaada gives the greatest number of actinomycetes compared to others soils. The first screening indicates that 63.15 % of the isolates were able to produce carboxymethyl cellulase enzyme. Isolates were evaluated for their cellulase activity by growing in carboxymethyl cellulose broth. B-PNG23 isolate is one of the isolates displayed a high enzyme activity of 0.92 IU/mL and specific activity of 2.09 U/mg proteins. These results indicate that the isolate B-PNG23 has an interesting potential for the production of endoglucanase activity. Furthermore, nucleotide sequence of the 16S rRNA gene (608 pb) of *Streptomyces* sp. B-PNG23 exhibited 100 % of identity with *Streptomyces* sp. SES404 16S rRNA genes.

Keywords: Algerian soils, carboxymethyl cellulases, identification, isolation, *Streptomyces*

Received: November, 2012; Revised final: January, 2014; Accepted: January, 2014
