

7th International Conference on

BACTERIOLOGY AND INFECTIOUS DISEASES

June 04-05, 2018 Osaka, Japan

Characterization of antiproliferative red-like pigments produced by *streptomyces coelicoflavus*Mouslim Assia¹, Ayoubi Hasnaa¹, Menggad Saad², Moujabbir Sara¹, Habti Norddine¹, Affar El Bachir² And Menggad Mohammed¹¹Hassan II University of Casablanca, Morocco² University of Montréal, Canada

Anthracycline antibiotics such as prodigiosin are known to exhibit antitumor, antioxidant, and immunosuppressive activities. In this study, five strains of actinomycetes isolated from soil were revealed to produce anthracycline related red-like pigments. Phenotypic and RNA gene coding sequence analysis allowed identification of the all strains as *Streptomyces coelicoflavus*, which reported here for the first time to produce an anti-proliferative red-like pigment. The pigments are intracellular, hydrophobic and photosensitive. UV-Vis spectra, TLC analysis, antibacterial assay and production media suggest highly that these red-like pigments are undecylprodigiosin analogues or possible other similar anthracyclines. Cytotoxicity of crude extract and fractions of two strains were performed by MTT assay on mice P3 myeloid cancer cell line and human U2OS osteosarcoma cancer cell line. Results on mice P3 cell line showed that the crude extract of one from two tested strains have the highest anti-proliferative activity at low dose. At 100 µg per ml both fractions A and B of the two strains showed high anti-proliferative effect on mice P3 cell line. In human U2OS osteosarcoma cell line, 3 fractions showed more anti-proliferative effect than on mice P3 cell line. FACs analysis suggests a cell phase cycle arrest at G1 and S according to the fractions.

Biography

Mouslim Assia is currently pursuing her PhD in Faculty of Sciences Ben M'Sik, University of Hassan II Casablanca, Morocco.

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