Screening a Greek collection of *Streptomyces* strains for producers of antiaging compounds

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Culture collections are a vital repository of microbial biodiversity and are also of great use to the biotechnology industry since many strains kept at collections are able to produce secondary metabolites with a wide variety of useful applications. One genus of bacteria capable of producing very large numbers of secondary metabolites, many of which are of vital importance to modern medicine and agriculture, is *Streptomyces*. Recent literature indicates that the geomorphological and climate conditions of Greece result in soil reservoirs that have a high taxonomic and functional diversity of *Streptomyces* populations, providing a rich pool of strains with potential biotechnological value. The Athens University Bacterial & Archaea Culture Collection (ATHUBA) contains a large number of *Streptomyces* isolates from Greek environments with potential industrial utility. For this reason, we screened 1000 isolates for antiaging activity. The strains were grown in liquid culture and their secondary metabolites were extracted twice using ethyl acetate followed by methanol and then tested for inhibition of elastase (which breaks down skin collagen and can cause wrinkles) and tyrosinase (which produces melanin and can cause liver spots). Our *in vitro* screen found that 1.4% of strains produced elastase inhibitors and 26.4% produced tyrosinase inhibitors and that ethyl acetate is a more efficient solvent for extraction of molecules of interest than methanol. These extracts will be further analysed and the most suitable compounds will be used in the manufacture of antiaging skin creams by an industrial partner.