



Bioactivity-Based HPLC Tandem Q/TOF for Alpha-Glucosidase Inhibitors. Screening, Identification, and Quantification from Actinomycetes

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SUMMARY. This study was performed to screen α -glucosidase inhibitors from the actinomycete metabolites library by high throughput screening. Twelve strains of actinomycete were considered to be α -glucosidase inhibitors producing strains; then effective inhibitory strain PW409 was fermented and separated by bioactivity based HPLC, two fractions showing remarkable inhibitory activities; the two compounds were identified as 1-deoxynojirimycin (DNJ) and miglitol by mass spectrometry, comparing with authentic standards, and relevant literature. The quantification analysis of DNJ and miglitol by HPLC-MS/MS showed that the average concentrations of DNJ and miglitol in broth of strain PW409 were 11.2 and 95.8 mg/L, respectively. This is the first report about *Streptomyces* sp. products α -glucosidase inhibitor miglitol. The strain PW409 has potential application in biosynthesis and biotransformation of antidiabetes drug miglitol. The method can be utilized for new α -glucosidase inhibitors discovering and development from other inhibitory activity strains.

KEY WORDS: Actinomycetes, Bioactivity-based HPLC, α -glucosidase inhibitor, Identification, Quantification, Screening.

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