ABSTRACT

Sibiromycin is produced by actinomycetes of *Streptosporangium sibiricum* and structurally belongs to family of pyrrolo-1,4-benzodiazepines. Sibiromycin is characterized by antibacterial and especially antitumor activity but due to its proved cardiotoxicity it cannot be used. The following research of possible therapeutic sibiromycin utilization is concerned on new nontoxic derivatives produced by genetic manipulated strains of *S. sibiricum.* For this purpose a new routine chromatographic UPLC-UV method with analyte preconcentration was developed and partially validated. A fermentation broth was extracted by solid phase extraction (SPE) on OASIS MCX columns with the sorbent based on a cation-exchange. Eluted extract was evaporated, reconstituted in methanol and loaded onto UPLC BEH C18 column and analyzed under gradient mode with mobile phases of methanol (A) and trifluoroacetic acid (B). Detection limit of the method was determined as 40 ng/ml, the recovery was 74.75 % and its reproducibility expressed as RSD was 5.18 %. The method was applied to comparison of sibiromycin production by *S. sibiricum* on 13 different fermentation media. It was found, that a composition of fermentation media influences not only the sibiromycin production but also a synthesis of sibiromycin nature derivatives, which were finally identified by mass spectrometry.