Expression, Characterization and Identification of SODs genes from *Streptomyces peucetius* ACTCC 27952

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Abstract

The complete genome of *Streptomyces peucetius* ACTCC 27952 has been sequenced that covers 8.1 Mb. The analysis of whole genome of *Streptomyces peucetius* ACTCC 27952 render two superoxide dismutase (spSODs) named spSOD1 & spSOD2. The deduced amino acid sequences of spSOD1 shows high similarity to SODs from *Streptomyces coelicolor* A3(2) and *Streptomyces avermitilis* MA-4680 (85% identity) whereas spSOD2 shows high similarity to SODs from *Streptomyces avermitilis* MA-4680 and *Streptomyces coelicolor* A3(2) (94% identity, and 93% identity respectively). Out of two spSODs, spSOD1 has been cloned and expressed into E. coli BL21 (DE3) and characterized. It was also cloned into pIBR25, a Streptomyces expression vector and transformed into different Streptomyces sp. to study its effects in the production of secondary metabolites.

**Key words**: Genome, Superoxide dismutase, Secondary metabolites,