Cloning and expression of a xylanase gene from newly isolated *Staphylococcus* sp. SS8

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From 11 strains, which is isolated from various environmental samples, SS8 microbial strain was characterized and identified as *Staphylococcus* sp. by analysis of 16S rDNA sequence and biochemical studies, and named as *Staphylococcus* sp. SS8 which has high xylanase activities. The optimum temperature and pH for xylanase activity of *Staphylococcus* sp. SS8 were 50℃ and 9.0, respectively. The xylanase activity was strongly inhibited by Al^{+++}. The xylanase gene was cloned from *Staphylococcus* sp. SS8 genomic DNA by polymerase chain reaction (PCR). The amplified PCR product was ligated with the T&A cloning vector system and the constructed plasmids were transformed into *E. coli* DH5α. The sequence analysis of the insert DNAs revealed the identification of a 640-bp region containing xylanase open reading frame. According to xylanase gene sequence analysis, *Staphylococcus* sp. SS8 had gene sequence similarity of 99% with *Bacillus subtilis* Xyl gene for xylanase (AB457186.1).