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## **Cloning and Functional Analysis of SLTI182 gene with asparagine catabolism**

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L-asparaginase mediates the conversion of asparagine into aspartate and ammonia, and plays an important role in nitrogen metabolism in plants. It also has a role in biosynthesis of amino acids and nodulation process in legumes. SLTI 182 clone has high homologies with L-asparaginase gene. In this study, the functional analysis of SLTI 182 gene is performed.

The function of SLTI 182 gene was analyzed through *E. coli* transformation. The recombinant proteins purified with three-step purification schemes; fractionation, immobilized metal ion affinity chromatography, and histidine affinity chromatography. Recombinant SLTI 182 protein was expressed in *E. coli* cells. L-asparaginase activity of SLTI 182 was assayed by measuring ammonia amount released from asparagine. *E. coli* cells expressing SLTI182 function showed an increased L-asparaginase activity. The protein of antisense pET-SLTI182 was largely increased the amount of asparagine compared with sense pET-SLTI182.