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研究论文

3个类核糖核酸基因在磷饥饿条件下的表达

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摘要 核糖核酸酶（RNases）可以将衰老的植物组织中的核糖核酸降解释放出磷元素，使它能够运送到幼嫩部位被重新利用。许多核糖核酸酶基因的表达受磷饥饿的正调控。利用已有的EST序列，从普通小麦“小偃54”中分离了3个核糖核酸酶基因的cDNA序列。这3个基因预测的氨基酸序列与S-核糖核酸酶和S-like核糖核酸酶（类核糖核酸酶）的氨基酸序列有较高的同源性。WRN1的表达受磷饥饿和衰老的负调控，而WRN2和WRN3受磷饥饿的正调控。

关键词 磷饥饿 普通小麦 类核糖核酸酶

分类号 Q75

Expressions of Three Wheat S-like RNase Genes Were Differentially Regulated by Phosphate Starvation

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Abstract In plants, RNase can degrade RNA to release Pi in senescent organs, which can be reused by young organs. The expression of many S-like RNase genes were up-regulated by phosphate starvation. Using the ESTs, three S-like RNase gene cDNAs were isolated from common wheat by RT-PCR. The predicated amino acid sequences of the three sequences were found to have high similarities with those S-RNases and S-like RNases in other plant species. The expression of WRN1 was down-regulated by phosphate starvation and leaf senescence; while WRN2 and WRN3 were up-regulated by phosphate starvation.

Key words Phosphate starvation Common wheat (Triticum aestivum L.) S-like RNase

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