

عنوان مقاله:

Primary root growth, tissue expression and co-expression analysis of areceptor kinase mutant in Arabidopsis

محل انتشار:

دوفصلنامه اصلاح مولکولی گیاهان، دوره 2، شماره 2 (سال: 1393)

تعداد صفحات اصل مقاله: 8

نویسندگان:

H Najafi Zarrini - *Plant Breeding Department, Sari Agricultural Sciences and Natural Resources University (SANRU), Sari, Iran*

M Mohammad Jani Asrami - *Plant Breeding Department, Sari Agricultural Sciences and Natural Resources University (SANRU), Sari, Iran*

خلاصه مقاله:

There is no functional annotation for the majority of the several hundreds of receptor-like kinases in plants. A direct way of inferring the function of these proteins is to study the phenotype that results from loss of function mutants such as T-DNA mutant lines. In this research a function (phenotype) to At2g37050 gene that encodes a receptor like kinase in Arabidopsis T-DNA line was assigned. This phenotype has a shorter primary root length at later stages of development. Transcription study of the gene showed some tissue specificity with more expression level in the root in comparison with other tissues. To study genes co-expressed with At2g37050, ATTED-II web tool was used. It was found that the CLASP gene is co-expressed with At2g37050 with a Pearson correlation > 0.6 . In kinematic analysis of the difference in root growth, the length between the root tip and the first epidermal cell with a visible root hair bulge for 8 day-old seedlings of wild type plants was $1327 \pm 76.50 \mu\text{m}$ ($n=6$) and for the mutant plants, was 1109 ± 72.28 . This parameter of the wild type and the mutant plants shows that loss of function of At2g37050 gene, reduce cell elongation in the elongation zone of root.

کلمات کلیدی:

Arabidopsis, Mutant, Receptor Like Kinase, Root

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