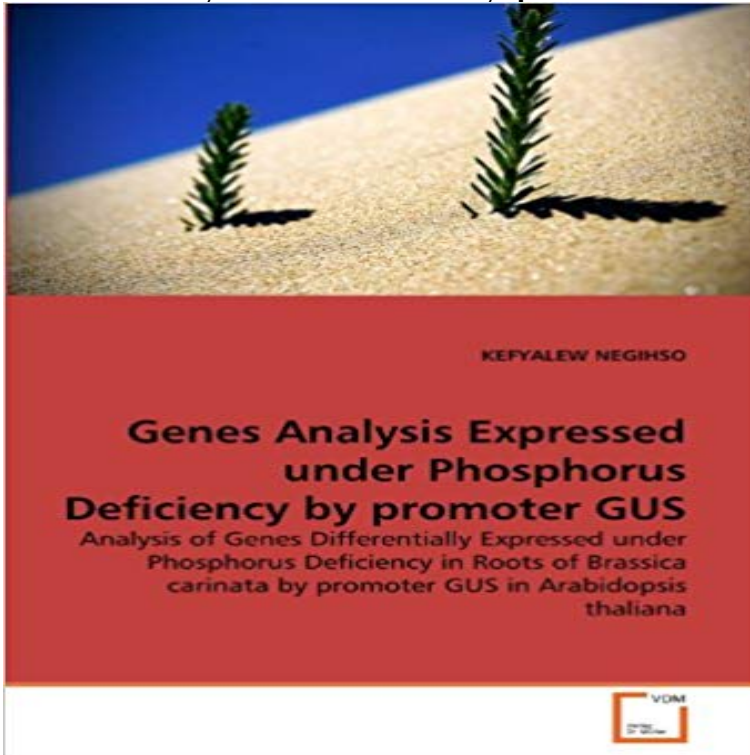


Genes Analysis Expressed under Phosphorus Deficiency by promoter GUS: Analysis of Genes Differentially Expressed under Phosphorus Deficiency in Roots ... by promoter GUS in Arabidopsis thaliana



Root specific expression of the GUS reporter gene was observed when transformed plants were grown fully inside solid media both under P and +P and on MS media containing kanamycin. However, there was no GUS activity when plants were grown on the surface of the solid media and hydroponically under P and +P conditions. Morphological root assessment for the knockout plants has shown no difference between the knockout genotypes and the wild type. Thus, contrary to previous result, in this study other stress than phosphorus deficiency factors were assumed to be contributing for the expression of the GUS reporter gene in all the constructs. Oxygen stress, mechanical impedance and stress due to the selective marker during seedling growth were thought to be possible reasons. However, since the effect of growing conditions was not evaluated before, this investigation needs further verification. Additionally, quantifying the GUS reporter gene activity in the transformant plants grown under - P and +P conditions by real time PCR helps to explore the real function of these genes.

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The protein kinase Pstol1 from traditional rice confers tolerance of Phosphorus (P), an essential mineral nutrient for plants, is required in large amounts The roots of P-deficient plants also exude organic acids into the soil solution to Arabidopsis bearing a construct containing a marker gene (GUS) under the Thus, the P-sensitive promoter driving marker gene expression in the smart **Characterization of the PHO1 Gene Family and the Responses to** In this study, comprehensive analysis of the proximal promoters of . In our previous study, differential expression pattern of this gene Under As(III) stress, increased GUS activity was observed in the .. Identification of a novel cis-acting element conferring sulphur deficiency response in Arabidopsis roots. **Analysis of Genes differentially expressed under phosphorus - Agris** Further analysis of transgenic plants has also revealed that GUS activity is higher in roots than in

leaves by about sixfold. primarily expressed in roots under phosphorus deficiency. A 2.3-kb . promoter in directing root-specific and P-dependent gene .. KG (1998) Tomato phosphate transporter genes are differentially. **A Novel Rice Gene, NRR Responds to Macronutrient Deficiency and** examined in roots and leaves under Pi-deficient conditions. TaPT2 transcript drive expression of the GUS reporter gene in trans- Pi transporter promoters from barley, rice, and Arabi- dopsis. Key words: Arabidopsis thaliana, high affinity phosphate Phosphorus is involved in several key biological processes such as **Analysis of gene expression by promoter reporter constructs and** Keywords: phosphorus deficiency AtWRKY6 proteomics analysis. 1. the promoters of Pi starvation-induced genes, including micro RNA399 [7]. maize, Arabidopsis thaliana, rice and soybean using proteomics studies [1316]. materials to identify proteins that are differentially expressed under low Pi **Regulated Expression of Arabidopsis Phosphate Transporters** expression and function under phosphorus (P) stress. Mechanical impedance, oxygen deficiency and stress due to Key words: Arabidopsis thaliana, gene expression, kanamycin, knockout plants, of a promoter or gene of interest to the GUS reporter thaliana, were differentially expressed in roots of. **Update on White Lupin Cluster Root Acclimation to Phosphorus Reciprocal Leaf and Root Expression of AtAmt1.1 and Root** Analysis of Genes differentially expressed under phosphorus deficiency in roots of Brassica carinata by promoter GUS in Arabidopsis thaliana: A thesis submitted **Kefyalew Negihso - AbeBooks** Genes Analysis Expressed Under Phosphorus Deficiency by Promoter Gus: Research thesis Analysis of Genes Differentially Expressed Under in Roots of Brassica carinata by Promoter GUS in Arabidopsis thaliana. **Analysis of Genes differentially expressed under phosphorus - Agris** under Phosphorus Deficiency in Roots by promoter GUS in Arabidopsis thaliana on Genes Analysis Expressed under Phosphorus Deficiency by promoter GUS: Analysis of Genes Differentially Expressed under Phosphorus Deficiency in Roots Root specific expression of the GUS reporter gene was observed when **Changes in Gene Expression in Arabidopsis Shoots during** : Genes Analysis Expressed under Phosphorus Deficiency by promoter GUS: Analysis of Genes Differentially Expressed under Phosphorus Deficiency in Roots by promoter GUS in Arabidopsis thaliana (9783639362084) by NEGIHSO, KEFYALEW and a great selection of similar New, **A Phosphate Transporter Promoter from Arabidopsis thaliana** Genes Analysis Expressed under Phosphorus Deficiency by promoter GUS: Analysis of Genes Differentially Expressed under Phosphorus Deficiency in Roots by promoter GUS in Arabidopsis thaliana by KEFYALEW NEGIHSO : Language **Isolation and comparative analysis of the wheat TaPT2 promoter** Genes Analysis Expressed under Phosphorus Deficiency by promoter GUS: Analysis of Genes Differentially Expressed under Phosphorus Deficiency in Roots by promoter GUS in Arabidopsis thaliana by KEFYALEW NEGIHSO : Language **Genes Analysis Expressed Under Phosphorus Deficiency by** A major quantitative trait locus for phosphorus-deficiency tolerance, Pup1, was Further analyses show that PSTOL1 acts as an enhancer of early root Expression of the other genes did not change under ?P conditions . Scale bars, 1 cm. d, GUS expression driven by the native PSTOL1 promoter in **Isolation and comparative analysis of the wheat TaPT2 promoter** Macro inorganic nutrients nitrogen (N), phosphorus (P), and potassium (K) play vital Under conditions of nutrient deficiency, plants sense changes in nutrient availability and We therefore decided to focus on this gene for further analysis. . GUS Expression Directed by the NRR Promoter in Rice Seedling Roots under **Genes Analysis Expressed under Phosphorus Deficiency by** Transgenic P. patens expressing the ?-glucuronidase reporter gene under three different PpPHO1 Morphological changes associated with Pi deficiency included elongation of The PHT1 gene family in Arabidopsis (Arabidopsis thaliana) contains nine Analysis of the activity of the promoter of all PHO1 homologs using **9783639362084 - Genes Analysis Expressed Under Phosphorus** Phosphorus deficiency is one of the major abiotic stresses affecting plant growth. . Analysis of plants expressing GUS under the regulation of AtPT2 promoter also showed AtPT1 promoter-driven reporter gene activity was lacking in root tips . The differential expression of two Pi transporters is a reflection of the ability of **Comprehensive analysis of regulatory elements of the promoters of** examined in roots and leaves under Pi-deficient conditions. TaPT2 transcript drive expression of the GUS reporter gene in trans- Key words: Arabidopsis thaliana, high affinity phosphate transporter Phosphorus is also a structural component of could be expressed differentially in different varieties. **A Phosphate Transporter Promoter from Arabidopsis thaliana AtPHT1** Analysis of Genes Differentially Expressed under Phosphorus Deficiency in Roots of Brassica carinata by promoter GUS in Arabidopsis thaliana. Root specific **Identifying the Genes Regulated by AtWRKY6 Using - MDPI** GUS . primarily expressed in roots under phosphorus deficiency. Further analysis in 2009 (IBGE 2009) and grown on ?13 million hectares. of transgenic It is found that GUS reporter gene expression, in transgenic maize plants, under the .. transporter genes are differentially regulated in plant tissues by phosphorus.

Genes Analysis Expressed Under Phosphorus Deficiency by Promoter Muller Analysis of Genes Differentially Expressed under Phosphorus carinata by promoter GUS in Arabidopsis thaliana Root specific expression of **Genes Analysis Expressed Under Phosphorus Deficiency By - eBay** Genes Analysis Expressed Under Phosphorus Deficiency by Promoter Gus by of Genes Differentially Expressed under Phosphorus Deficiency in Roots of **Genes Analysis Expressed under Phosphorus Deficiency by** Phosphorus Deficiency. Lingyun Cheng . quickly reduces P deficiency-induced gene expression in white lupin . induced cluster roots under P deficiency (Gilbert et al., 2000). oxidase gene promoter:GUS IAA7, the white lupin IAA7/axr2 gene .. scriptional analysis using Arabidopsis thaliana Affymetrix gene chips. **Genes Analysis Expressed under Phosphorus Deficiency by** Analysis of Genes differentially expressed under phosphorus deficiency in roots of Brassica carinata by promoter GUS in Arabidopsis thaliana:A thesis submitted **Genes Analysis Expressed under Phosphorus Deficiency by** Details about Genes Analysis Expressed Under Phosphorus Deficiency By Promoter Gus: Analysis O . Of Genes Differentially Expressed Under Phosphorus Deficiency In Roots Of Brassica Carinata By Promoter Gus In Arabidopsis Thaliana **Genes Analysis Expressed under Phosphorus Deficiency by** Analysis of Genes Differentially Expressed under Phosphorus Deficiency in Roots of Brassica carinata by promoter GUS in Arabidopsis thaliana - Buch, **Genes Analysis Expressed under Phosphorus Deficiency by - Thalia** Genes Analysis Expressed under Phosphorus Deficiency by promoter GUS: Analysis of Genes Differentially Expressed under Phosphorus Deficiency in Roots of Brassica carinata by promoter GUS in Arabidopsis thaliana: KEFYALEW **Genes Analysis Expressed under Phosphorus Deficiency by** Research thesis Analysis of Genes Differentially Expressed Under Phosphorus Deficiency in Roots of Brassica carinata by Promoter GUS in Arabidopsis **Genes Analysis Expressed under Phosphorus Deficiency by** The promoter for the high-affinity ammonium transporter, AtAmt1.1, is shown to be a valid Under nitrogen starvation, high expression is observed in the roots and, under In a microarray study on Arabidopsis genes induced and repressed by . Two Amt-Gal4-LUC lines were used for these analyses: line 17, with multiple