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摘要: 以吉大豆1号、2号等5个大豆品种为材料,胚尖为外植体,研究不同浓度6-BA对不同基因型胚尖丛生芽诱变率和再生率的影响,筛选得到适合于胚尖再生系统的基因型吉大豆2号,并以吉大豆2号为材料,研究侵染阶段加入脯氨酸和硝酸银对胚尖褐化率的影响,将获得的再生植株进行生根试验。结果表明:共培养基中添加3.0 mg·L⁻¹脯氨酸和3.0 mg·L⁻¹硝酸银能显著抑制褐化率,蔗糖配合较高浓度的IBA能更好地促进生根。

Abstract: In order to screen the optimal genotypes for embryonic tip regeneration system in soybean (*Glycine max* L. Merr.), the embryonic tips of five soybean cultivars including Jidadou 1 and Jidadou 2, were used as explants to study the effects of 6-benzyl aminopurine (6-BA) concentration on induction and regeneration rate of adventitious bud. The screened soybean cultivar Jidadou 2, fitting for soybean embryonic tip regeneration system, were used as explants to study the influence of Indole-3-butyric acid (IBA) on browning rate of embryonic tips when adding proline and silver nitrate. The browning rate was effectively inhibited when the concentration of 3.0 mg·L⁻¹ proline and 3.0 mg·L⁻¹ silver nitrate were as the additives in co-cultivation medium. Sucrose with a high concentration of IBA could increase the rooting ratio.

参考文献/References:

- [1]刘海坤,卫志明.大豆遗传转化研究进展[J].植物生理与生物学报,2005,31(2):126-134. (Liu H K, Wei Z M. Recent advances in soybean genetic transformation[J]. Journal of Plant Physiology and Molecular Biology, 2005, 31(2): 126-134.)
- [2]孙文丽,刘显辉,吴元华,等.大豆再生体系的研究进展[J].安徽农业科学,2008,36(16):6660-6665. (Sun W L, Liu Y H, Wu Y H, et al. Advance in research on the regeneration system of soybean[J]. Journal of Anhui Agricultural Sciences, 2008, 36(16): 6660-6665.)
- [3]李海燕,武小霞,刘森,等.大豆子叶节、胚尖再生植株的研究[J].大豆科学,2007,26(5):709-712. (Li H Y, Wu X X, Liu S, et al. Plant regeneration from cotyledonary nodes and embryonic tips of soybean[J]. Soybean Science, 2007, 26(5): 709-712.)
- [4]王萍,吴颖,季静.大豆组织培养的研究进展[J].大豆科学,2003,22(2):142-145. (Wang P, Wu Y, Ji J. Current progress on tissue culture of soybean[J]. Soybean Science, 2003, 22(2): 142-145.)
- [5]张东旭,张洁,商蕾,等.大豆胚尖再生体系的研究[J].河北农业大学学报,2008,30(4):7-13. (Zhang D X, Zhang J, Shang L, et al. Study on the regeneration system of soybean embryonic tips[J]. Journal of Agricultural University of Hebei, 2008, 30(4): 7-13.)
- [6]Liu H K, Yang C, Wei Z M. Efficient Agrobacterium tumefaciens-mediated transformation of soybeans using an embryonic tip regeneration system[J]. Planta, 2004, 219: 1042-1049.
- [7]闫帆,孙昕,翟莹,等.6-BA浓度及基因型对诱导胚尖丛生芽影响的研究[J].大豆科学,2011,30(1):29-32. (Yan F, Sun X, Zhai Y, et al. Effect of different concentration of 6-BA and genotypes on shoots induced from embryonic tips[J]. Soybean Science, 2011, 30(1): 29-32.)

[8]王栋,买台木提·克衣木,王永雄,等.植物组织培养中的褐化现象及其防止措施[J].黑龙江农业科学,2008(1):7-10. (Wang D,Mai H M T·K Y M,Yu Y X,et al.Browning phenomenon in plant tissue culture and its prevention measures [J].Heilongjiang Agricultural Sciences,2008(1):7-10.

相似文献/References:

- [1]刘章雄,李卫东,孙石,等.1983~2010年北京大豆育成品种的亲本地理来源及其遗传贡献[J]. (article.aspx?type=view&id=201301001)大豆科学,2013,32(01):1. [doi:10.3969/j.issn.1000-9841.2013.01.002]
- LIU Zhang-xiong,LI Wei-dong,SUN Shi,et al.Geographical Sources of Germplasm and Their Nuclear Contribution to Soybean Cultivars Released during 1983 to 2010 in Beijing[J].Soybean Science,2013,32(05):1. [doi:10.3969/j.issn.1000-9841.2013.01.002]
- [2]李彩云,余永亮,杨红旗,等.大豆脂质转运蛋白基因GmLTP3的特征分析[J]. (article.aspx?type=view&id=201301002)大豆科学,2013,32(01):8. [doi:10.3969/j.issn.1000-9841.2013.01.003]
- LI Cai-yun,YU Yong-liang,YANG Hong-qi,et al.Characteristics of a Lipid-transfer Protein Gene GmLTP3 in Glycine max[J].Soybean Science,2013,32(05):8. [doi:10.3969/j.issn.1000-9841.2013.01.003]
- [3]王明霞,崔晓霞,薛晨晨,等.大豆耐盐基因GmHAL3a的克隆及RNAi载体的构建[J]. (article.aspx?type=view&id=201301003)大豆科学,2013,32(01):12. [doi:10.3969/j.issn.1000-9841.2013.01.004]
- WANG Ming-xia,CUI Xiao-xia,XUE Chen-chen,et al.Cloning of Halotolerance 3 Gene and Construction of Its RNAi Vector in Soybean (Glycine max) [J].Soybean Science,2013,32(05):12. [doi:10.3969/j.issn.1000-9841.2013.01.004]
- [4]张春宝,李玉秋,彭宝,等.线粒体ISSR与SCAR标记鉴定大豆细胞质雄性不育系与保持系[J]. (article.aspx?type=view&id=201301005)大豆科学,2013,32(01):19. [doi:10.3969/j.issn.1000-9841.2013.01.005]
- ZHANG Chun-bao,LI Yu-qiu,PENG Bao,et al.Identification of Soybean Cytoplasmic Male Sterile Line and Maintainer Line with Mitochondrial ISSR and SCAR Markers[J].Soybean Science,2013,32(05):19. [doi:10.3969/j.issn.1000-9841.2013.01.005]
- [5]卢清瑶,赵琳,李冬梅,等.RAV基因对拟南芥和大豆不定芽再生的影响[J]. (article.aspx?type=view&id=201301006)大豆科学,2013,32(01):23. [doi:10.3969/j.issn.1000-9841.2013.01.006]
- LU Qing-yao,ZHAO Lin,LI Dong-mei,et al.Effects of RAV gene on Shoot Regeneration of Arabidopsis and Soybean [J].Soybean Science,2013,32(05):23. [doi:10.3969/j.issn.1000-9841.2013.01.006]
- [6]杜景红,刘丽君.大豆fad3c基因沉默载体的构建[J]. (article.aspx?type=view&id=201301007)大豆科学,2013,32(01):28. [doi:10.3969/j.issn.1000-9841.2013.01.007]
- DU Jing-hong,LIU Li-jun.Construction of fad3c Gene Silencing Vector in Soybean[J].Soybean Science,2013,32(05):28. [doi:10.3969/j.issn.1000-9841.2013.01.007]
- [7]张力伟,樊颖伦,牛腾飞,等.大豆“冀黄13”突变体筛选及突变体库的建立[J]. (article.aspx?type=view&id=201301008)大豆科学,2013,32(01):33. [doi:10.3969/j.issn.1000-9841.2013.01.008]
- ZHANG Li-wei,FAN Ying-lun,NIU Teng-fei,et al.Screening of Mutants and Construction of Mutant Population for Soybean Cultivar “Jihuang13” [J].Soybean Science,2013,32(05):33. [doi:10.3969/j.issn.1000-9841.2013.01.008]
- [8]盖江南,张彬彬,吴瑶,等.大豆不定胚悬浮培养基因型筛选及基因枪遗传转化的研究[J]. (article.aspx?type=view&id=201301009)大豆科学,2013,32(01):38. [doi:10.3969/j.issn.1000-9841.2013.01.009]
- GAI Jiang-nan,ZHANG Bin-bin,WU Yao,et al.Screening of Soybean Genotypes Suitable for Suspension Culture with Adventitious Embryos and Genetic Transformation by Particle Bombardment[J].Soybean Science,2013,32(05):38. [doi:10.3969/j.issn.1000-9841.2013.01.009]
- [9]王鹏飞,刘丽君,唐晓飞,等.适于体细胞胚发生的大豆基因型筛选[J]. (article.aspx?type=view&id=201301010)大豆科学,2013,32(01):43. [doi:10.3969/j.issn.1000-9841.2013.01.010]
- WANG Peng-fei,LIU Li-jun,TANG Xiao-fei,et al.Screening of Soybean Genotypes Suitable for Somatic Embryogenesis [J].Soybean Science,2013,32(05):43. [doi:10.3969/j.issn.1000-9841.2013.01.010]
- [10]刘德兴,年海,杨存义,等.耐酸铝大豆品种资源的筛选与鉴定[J]. (article.aspx?type=view&id=201301011)大豆科学,2013,32(01):46. [doi:10.3969/j.issn.1000-9841.2013.01.011]
- LIU De-xing,NIAN Hai,YANG Cun-yi,et al.Screening and Identifying Soybean Germplasm Tolerant to Acid Aluminum [J].Soybean Science,2013,32(05):46. [doi:10.3969/j.issn.1000-9841.2013.01.011]
- [11]张忻爽,王萍,宋海星,等.卡那霉素和草铵膦对不同基因型大豆胚尖不定芽诱导的影响[J]. (article.aspx?type=view&id=201301032)大豆科学,2013,32(01):136. [doi:10.3969/j.issn.1000-9841.2013.01.032]
- ZHANG Xin-shuang,WANG Ping,SONG Hai-xing,et al.Effect of Kanamycin and Glufosinate on Adventitious Buds Induction from Embryonic Tip of Different Genotype Soybean[J].Soybean Science,2013,32(05):136. [doi:10.3969/j.issn.1000-9841.2013.01.032]
- [12]张兴政,王昌陵,卢福荣,等.根瘤农杆菌介导大豆转化 LePT1 基因的研究[J]. (article.aspx?type=view&id=201401007)大豆科学,2014,33(01):31. [doi:10.11861/j.issn.1000-9841.2014.01.0031]
- ZHANG Xingzheng,WANG Changling,LU Furong,et al.Transformation of LePT1 Gene into Soybean via Agrobacterium mediation[J].Soybean Science,2014,33(05):31. [doi:10.11861/j.issn.1000-9841.2014.01.0031]
- [13]钟影,王罡,季静,等.草甘膦对不同基因型大豆不定芽再生的影响[J]. (article.aspx?type=view&id=201406015)大豆科学,2014,33(02):218. [doi:10.11861/j.issn.1000-9841.2014.02.0218]
- ZHONG Ying,WANG Gang,JI Jing,et al.Effect of Glyphosate on Adventitious Buds Induction from Embryonic Tip of Different Genotype Soybean[J].Soybean Science,2014,33(05):218. [doi:10.11861/j.issn.1000-9841.2014.02.0218]
- [14]郑丽红,季静,王罡,等.适于子叶节和胚尖再生体系的大豆基因型筛选[J]. (article.aspx?type=view&id=201202011)大豆科学,2012,31(02):212. [doi:10.3969/j.issn.1000-9841.2012.02.011]
- ZHENG Li-hong,JI Jing,WANG Gang,et al.Selection of Suitable Soybean Genotype Based on Cotyledon Node and Embryonic Tip Regeneration Systems[J].Soybean Science,2012,31(05):212. [doi:10.3969/j.issn.1000-9841.2012.02.011]
- [15]王伟,王罡,季静,等.大豆胚尖再生体系的优化及与子叶节再生体系的比较[J]. (article.aspx?type=view&id=201203004)大豆科学,2012,31(03):353. [doi:10.3969/j.issn.1000-9841.2012.03.004]
- WANG Wei,WANG Gang,JI Jing,et al.Optimization of Embryonic Tip Regeneration System and Comparison with Cotyledonary Node Regeneration System in Soybean[J].Soybean Science,2012,31(05):353. [doi:10.3969/j.issn.1000-9841.2012.03.004]
- [16]姚丙辰,沈艳茹,韩雪,等.大豆子叶节和胚尖再生体系的比较及大豆SR1基因的遗传转化[J]. (article.aspx?type=view&id=201203006)大豆科学,2012,31(03):364. [doi:10.3969/j.issn.1000-9841.2012.03.006]
- YAO Bing-chen,SHEN Yan-ru,HAN Xue,et al.Comparison with Cotyledonary Node and Embryonic Tip Regeneration System in Soybean (Glycine max(L.)Merrill) and Genetic Transformation of SR1 [J].Soybean Science,2012,31(05):364. [doi:10.3969/j.issn.1000-9841.2012.03.006]
- [17]许诺,张君,王丕武.6-BA和IBA浓度对不同基因型大豆胚尖诱导从生芽的影响[J]. (article.aspx?type=view&id=201402033)大豆科学,2012,31(04):678. [doi:10.3969/j.issn.1000-9841.2012.04.033]
- XU Nuo,ZHANG Jun,WANG Pi-wu.Effect of 6-BA and IBA Concentration on Shoots Induction from Embryonic Tips of Four Soybean Genotypes[J].Soybean Science,2012,31(05):678. [doi:10.3969/j.issn.1000-9841.2012.04.033]
- [18]闫帆,孙昕,翟莹,等.6-BA浓度及基因型对大豆胚尖诱导从生芽的影响[J]. (article.aspx?type=view&id=201101006)大豆科学,2011,30(01):29. [doi:10.11861/j.issn.1000-9841.2011.01.0029]
- YAN Fan,SUN Xin,ZHAI Ying,et al.Effect of Different 6-BA Concentration and Genotypes on Shoots Induced from Embryonic Tips[J].Soybean Science,2011,30(05):29. [doi:10.11861/j.issn.1000-9841.2011.01.0029]
- [19]朱红林,沙爱华,符秀梅,等.转录调控基因GmLEC1转化大豆及转化方法的比较[J]. (article.aspx?type=view&id=201001002)大豆科学,2010,29(01):7. [doi:10.11861/j.issn.1000-9841.2010.01.0007]
- ZHU Hong-lin,SHA Ai-hua,FU Xiu-mei,et al.Cloning and Transformation Study of Transcription Factor GmLEC1 in

Soybean[J]. Soybean Science, 2010, 29(05):7. [doi:10.11861/j.issn.1000-9841.2010.01.0007]

[20] 孙式静, 杨素欣, 冯献忠. 超声波辅助处理农杆菌介导大豆胚尖转化转基因植株的获得和分子鉴定[J]. (article.aspx?type=view&id=201406003)大豆科学, 2014, 33(06):808. [doi:10.11861/j.issn.1000-9841.2014.06.0808]

SUN Shi-jing, YANG Su-xin, FENG Xian-zhong. Molecular Characterization of the Transgenic Soybean Plants by Sonication-assisted Agrobacterium-mediated Transformation Using the Embryonic Tips[J]. Soybean Science, 2014, 33(05):808. [doi:10.11861/j.issn.1000-9841.2014.06.0808]

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