

List of research publications (Dec 2008) - Prakash P. Kumar

Publications in Refereed International Journals

61. Godge MR, Kumar BD, Kumar PP. Arabidopsis *HOG1* gene and its petunia homolog *PETCBP* act as key regulators of yield parameters. **Plant Cell Reports** (2008) (in press)
60. Murthy UMN, Kumar PP, Sun WQ. Change in glass transition temperature upon priming of *Impatiens walleriana* seeds does not explain their reduced longevity. **Seed Science & Technology** (2008) 36: 388-395.
59. Liu C, Chen H, Er HL, Soo HM, Kumar PP, Han JH, Liou YC, Yu H. Direct interaction of AGL24 and SOC1 integrates flowering signals in Arabidopsis. **Development** (2008) 135: 1481-1491.
58. Rajagopalan N, Pung YF, Zhu YZ, Wong PTH, Kumar PP, Kini RM. β -Cardiotoxin: A new three-finger toxin from *Ophiophagus hannah* (king cobra) venom with beta-blocker activity. **FASEB Journal** (2007) 21:3685-3695.
57. Nair DG, Fry BG, Alewood P, Kumar PP, Kini RM. Antimicrobial activity of omwaprin, a new member of waprins family of snake venom proteins. **Biochemical Journal** (2007) 402: 93-104.
56. Wang Y, Kumar PP. Characterization of two ethylene receptors *PhERS1* and *PhETR2* from petunia: *PhETR2* regulates timing of anther dehiscence. **Journal of Experimental Botany** (2007) 58: 533-544.
55. Xu Y, Teo LL, Zhou J, Kumar PP, Yu H. Floral organ identity genes in the orchid *Dendrobium crumenatum*. **The Plant Journal** (2006) 46: 54-68.
54. Pung YF, Kumar SV, Rajagopalan N, Fry BG, Kumar PP, Kini RM. Ohanin, a novel protein from king cobra venom: Its cDNA and genomic organization. **Gene** (2006) 371: 246-256.
53. Leonardia AAP, Kumar PP, Tan BC. Development of microsatellite markers for the tropical moss, *Acanthorrhynchium papillatum* **Molecular Ecology Notes** (2006) 6: 396-398.
52. Pung YF, Wong PTH, Kumar PP, Hodgson WC, Kini RM. Ohanin, a novel protein from king cobra venom induces hypolocomotion and hyperalgesia in mice. **Journal of Biological Chemistry, USA** (2005) 280:13137-13147.
51. Goh MWK, Kumar PP, Lim SH, Tan HTW. Random Amplified Polymorphic DNA analysis of the moth orchids, *Phalaenopsis* (Epidendroideae: Orchidaceae). **Euphytica** – (2005) 141: 11-22.
50. Yu H, Ito T, Zhao Y, Peng J, Kumar PP, Meyerowitz EM. Floral homeotic genes are targets of gibberellin signaling in flower development. **Proceedings of the National Academy of Sciences, USA** (2004) 101: 7827-7832.
49. Wagner D, Wellmer F, Dilks K, William D, Smith MR, Kumar PP, Riechmann JL, Greenland AJ, Meyerowitz EM. Floral induction in tissue culture: a system for the analysis of LEAFY-dependent gene regulation. **The Plant Journal** (2004) 39:273-282.
48. Zhang P, Pwee KH, Tan HT, Kumar PP. Conservation of class C function of floral organ development during 300 million years of evolution from gymnosperms to angiosperms. **The Plant Journal** (2004) 37: 566-577.
47. Wang Y, Kumar PP. Heterologous expression of *Arabidopsis ERS1* causes delayed senescence in coriander. **Plant Cell Reports** (2004) 22: 678-683.
46. Yu H, Kumar PP. Posttranscriptional gene silencing in plants by RNA (Invited Review Article). **Plant Cell Reports** (2003) 22: 167-174.

45. Wu Q, Zhang W, Pwee KH, Kumar PP. Cloning and characterization of rice HMGB1 gene. **Gene** (2003) 312: 103-109.
44. Prakash AP, Kush A, Lakshmanan P, Kumar PP. Cytosine methylation occurs in a CDC48 homologue and a MADS-box gene during adventitious shoot induction in *Petunia* leaf explants. **Journal of Experimental Botany** (2003) 54: 1361-1371.
43. Wu Q, Zhang W, Pwee KH, Kumar PP. Rice HMGB1 protein recognizes DNA structures and bends DNA efficiently. **Archives of Biochemistry and Biophysics** (2003) 411: 105-111.
42. Yu H, Xu Y, Tan EL, Kumar PP. AGAMOUS-LIKE 24, a dosage-dependent mediator of the flowering signals. **Proceedings of the National Academy of Sciences, USA** (2002) 99: 16336-16341.
41. Narayana Murthy UM, Kumar PP, Sun WQ. Mechanisms of Seed Aging under Different Storage Conditions: Lipid Peroxidation, Sugar Hydrolysis, Maillard Reactions and Their Relationship to Glass State Transition. **Journal of Experimental Botany** (2003) 54: 1057-1067.
40. Zhang P, Pwee KH, Tan HT, Kumar PP. Cloning and characterization of *Fortune-1*, a novel gene with enhanced expression in male reproductive organs of *Cycas edentata*. **Mechanisms of Development** (2002) 114: 149-152.
39. Narayana Murthy UM, Liang Y, Kumar PP, Sun WQ. Non-enzymatic protein modification by Maillard reaction reduces the activities of scavenging enzymes in *Vigna radiata*. **Physiologia Plantarum** (2002) 115: 213-220.
38. Prakash AP, Kumar PP. *PkMADS1* is a novel MADS-box gene regulating adventitious shoot induction and vegetative shoot development in *Paulownia kawakamii*. **The Plant Journal** (2002) 29: 141-151.
37. Low RK, Prakash AP, Swarup S, Goh CJ, Kumar PP. A differentially expressed bZIP gene is associated with adventitious shoot regeneration in leaf cultures of *Paulownia kawakamii*. **Plant Cell Reports** (2001) 20: 696-700.
36. Low RK, Prakash AP, Swarup S, Goh CJ, Kumar PP. Lambda exonuclease-based subtractive hybridization approach to isolate differentially expressed genes from leaf cultures of *Paulownia kawakamii*. **Analytical Biochemistry** (2001) 295: 240-247.
35. Teo W, Kumar PP, Goh CJ and Swarup S. The expression of *Brostm*, a KNOTTED1-like gene, marks the cell type and timing of in vitro shoot induction in *Brassica oleracea*. **Plant Molecular Biology** (2001) 46: 567-580.
34. Loo, AHB, Tan, HTW, Kumar PP and Saw LG. Intraspecific variation of *Licuala glabra* Griff. (Palmae) in Peninsular Malaysia - a morphometric analysis. **Biological Journal of The Linnean Society** (2001) 72: 115-128.
33. Tay BS, Ong BL and Kumar PP. Effect of varying CO₂ and light levels on growth of *Hedyotis* and sugarcane shoot cultures. **In Vitro Cellular and Developmental Biology-Plant** (2000) - 36: 118-124.
32. Loo AHB, Tan HTW, Kumar PP and Saw LG. Population analysis of *Licuala glabra* Griff. var. *glabra* using RAPD profiling. **Annals of Botany** (1999) 84: 421-427.
31. Rajaseger G, Tan HTW, Turner IM, Saw LG and Kumar PP. Analysis of Peninsular Malaysian *Ixora* species and selected populations and mutants by RAPD. **Annals of Botany** (1999) 84: 253-257.
30. Kumar PP, Rao CD, Rajaseger G and Rao AN. Seed surface architecture and random amplified polymorphic DNA profiles of *Paulownia fortunei*, *P. tomentosa* and their hybrid. **Annals of Botany** (1999) 83: 103-107.
29. Kumar PP, Rao CD and Goh CJ. The influence of petiole and lamina on adventitious shoot initiation from leaf explants of *Paulownia fortunei*. **Plant Cell Reports** (1998) 17: 886-890.

28. Kumar PP, Lakshmanan P and Thorpe TA. Regulation of morphogenesis in plant tissue culture by ethylene. **In Vitro Cellular and Developmental Biology-Plant** (1998) 34: 94-103.
27. Rath P, Rajaseger G, Goh CJ and Kumar PP. Genetic analysis of Dipterocarps using Random Amplified Polymorphic DNA markers. **Annals of Botany** (1998) 82: 61-65.
26. Kumar PP, Yau JCK and Goh CJ. Genetic analyses of *Heliconia* species and cultivars with RAPD markers. **Journal of the American Society for Horticultural Science** (1998) 123: 91-97.
25. Teo W, Lakshmanan P, Kumar PP, Goh CJ and Swarup S. Direct shoot formation and plant regeneration from cotyledon explants of rapid-cycling *Brassica rapa*. **In Vitro Cellular and Developmental Biology-Plant** (1997) 33: 288-292.
24. Rajaseger G, Tan HTW, Turner IM and Kumar PP. Analysis of genetic diversity among *Ixora* cultivars (Rubiaceae) using Random Amplified Polymorphic DNA. **Annals of Botany** (1997) 80: 355-361.
23. Kwa SH, Wee YC and Kumar PP. Ribulose-1,5-bisphosphate carboxylase and phosphoenolpyruvate carboxylase activities of photoautotrophic callus of *Platyserium coronarium* (Koenig ex O.F. Muell.) Desv. under CO₂ enrichment. **Plant Cell Tissue and Organ Culture** (1997) 50: 75-82.
22. Prakash AP and Kumar PP. Inhibition of shoot induction by 5-azacytidine and 5-aza-2'-deoxycytidine in *Petunia* involves DNA hypomethylation. **Plant Cell Reports** (1997) 16: 719-724.
21. Kwa SH, Wee YC, Lim TM and Kumar PP. Morphogenetic plasticity of callus reinitiated from cell suspension cultures of the fern *Platyserium coronarium*. **Plant Cell Tissue and Organ Culture** (1997) 48: 37-44.
20. Rao CD, Goh CJ and Kumar PP. High frequency adventitious shoot regeneration from excised leaves of *Paulownia* spp. cultured in vitro. **Plant Cell Reports** (1996) 16: 204-209.
19. Kumar PP, Rao CD and Goh CJ. Ethylene and CO₂ affect direct shoot regeneration from the petiolar ends of *Paulownia kawakamii* leaves cultured in vitro. **Plant Growth Regulation** (1996) 20: 237-243.
18. Jia SR, Kumar PP and Kush A. Oxidative stress in *Agrobacterium*-induced tumors on *Kalanchoe* plants. **The Plant Journal** (1996) 10: 545-551.
17. Kumar PP, Nathan MJ and Goh CJ. Involvement of ethylene on growth and plant regeneration in callus cultures of *Heliconia psittacorum* L.f. **Plant Growth Regulation** (1996) 19: 145 - 151.
16. Goh CJ, Kumar PP and Yau CK. Genetic variations detected with RAPD markers in *Heliconia*. **Acta Horticulturae** (1995) 420: 72-74.
15. Kwa SH, Wee YC and Kumar PP. Role of ethylene in the production of sporophytes from *Platyserium coronarium* (Koenig) Desv. frond and rhizome pieces cultured in vitro. **Journal of Plant Growth Regulation** (1995) 14: 183 - 189.
14. Kwa SH, Wee YC and Kumar PP. Ammonium and nitrate uptake and nitrate reductase activity of photoautotrophic callus cultures of the fern *Platyserium coronarium* (Koenig) Desv. **In Vitro Cellular and Developmental Biology-Plant** (1995) 31: 211 - 214.
13. Kwa SH, Wee YC, Lim TM and Kumar PP. Establishment and physiological analyses of photoautotrophic callus cultures of the fern *Platyserium coronarium* (Koenig) Desv. under CO₂ enrichment. **Journal of Experimental Botany** (1995) 46: 1535 - 1542.
12. Kwa SH, Wee YC, Lim TM and Kumar PP. IAA-induced apogamy in *Platyserium coronarium* (Koenig) Desv. gametophytes cultured *in vitro*. **Plant Cell Reports** (1995) 14: 598 - 602.
11. Goh CJ, Nathan MJ and Kumar PP. Direct organogenesis and induction of morphogenic callus through thin section culture of *Heliconia psittacorum*. **Scientia Horticulturae** (1995) 62: 113 - 120.

10. Nathan MJ, Kumar PP and Goh CJ. High frequency plant regeneration in *Heliconia psittacorum* L.f. **Plant Science** (1993) 90: 63-71.
9. Rao CD, Goh CJ and Kumar PP. High frequency plant regeneration from excised leaves of *Paulownia fortunei*. **In Vitro Cellular and Developmental Biology-Plant** (1993) 29P: 72 - 76.
8. Nathan MJ, Goh CJ and Kumar PP. In vitro propagation of *Heliconia psittacorum* by bud culture. **HortScience** (1992) 27: 450 - 452.
7. Kumar PP and Thorpe TA. A setup for incubating plant cultures under continuous flow of gases. **In Vitro Cellular and Developmental Biology-Plant** (1991) 27P: 43 - 44.
6. Joy IV RW, Kumar PP and Thorpe TA. Long-term storage of somatic embryogenic white spruce tissue at ambient temperature. **Plant Cell Tissue and Organ Culture** (1991) 25: 53 - 60.
5. Kumar PP, Joy IV RW and Thorpe TA. Ethylene and carbon dioxide accumulation and growth of cell suspension cultures of white spruce (*Picea glauca*). **Journal of Plant Physiology** (1989) 135: 592 - 596.
4. Kumar PP and Thorpe TA. Polyamine metabolism in excised cotyledons of *Pinus radiata* cultured in vitro. **Physiologia Plantarum** (1989) 76: 521 - 526.
3. Kumar PP, Bender L and Thorpe TA. Activities of ribulose biphosphate carboxylase and phosphoenolpyruvate carboxylase and ¹⁴C-bicarbonate fixation during in vitro culture of *Pinus radiata* cotyledons. **Plant Physiology** (1988) 87: 675 - 679.
2. Kumar PP, Reid DM and Thorpe TA. The role of ethylene and carbon dioxide in differentiation of shoot buds in excised cotyledons of *Pinus radiata* in vitro. **Physiologia Plantarum** (1987) 69: 244 - 252.
1. Kumar PP, Raju CR, Chandramohan M and Iyer RD. Induction and maintenance of friable callus from the cellular endosperm of *Cocos nucifera* L. **Plant Science** (1985) 40: 203 - 207.

Publications in Refereed Journals - Regional

1. Raju CR, Kumar PP, Chandramohan M and Iyer RD. Coconut plantlets from leaf tissue cultures. **Journal of Plantation Crops, India** (1984) 12: 75 - 78.
2. Turner IM, Tan HTW, Kumar PP, Chua KS, Samsuri BA. The vegetation of Pulau Sibul, Johore. **Malayan Nature Journal, Malaysia** (1993) 46: 169 - 188.

Coauthored book

1. Taji A, Kumar PP and Lakshmanan P. **In Vitro Plant Breeding**. Haworth Press, Inc., USA. (2002). ISBN 1-56022-907-1 (*The chapters were written by the three authors*).

Chapters in edited books

1. Thorpe TA and Kumar PP. Recent advances in plant micropropagation with particular reference to tropical species. - In: Proceedings Farm-Tech '85 Seminar: Modern Technology for Jamaican Agriculture, Kingston, Jamaica, W.I., Jan 27-31, 1985 - LA Wilson (Ed.) (1989) pp 67 - 95. Dept of Agric. Extension, UWI, St. Augustine, Trinidad and Tobago.

2. Kumar PP and Thorpe TA. Alteration of growth and morphogenesis by endogenous ethylene and carbon dioxide in conifer tissue cultures. -In: Applications of Biotechnology in Forestry and Horticulture - V Dhawan (Ed.) (1988) pp 205 - 214. Plenum Publishers, New York, USA.
3. Thorpe TA and Kumar PP. Cellular control of morphogenesis. -In: Micropropagation of Woody Plants - MR Ahuja (Ed.) (1990) pp 11 - 29. Kluwer Academic Publishers, Dordrecht, The Netherlands.
4. Thorpe TA, Harry IS and Kumar PP. Application of micropropagation to forestry. -In: Micropropagation: Technology and Application - PC Debergh and RH Zimmerman (Eds.) (1991) pp 311 - 336. Kluwer Academic Publishers, Dordrecht, The Netherlands.
5. Kumar PP and Thorpe TA. Use of tissue culture in tree physiology. - In: Physiology of Trees - AS Raghavendra (Ed.). (1991) pp 445 - 465. John Wiley & Sons, Inc., New York, USA.

Papers presented at international symposia

1. Kumar PP, Reid DM and Thorpe TA. 1986. Ethylene and carbon dioxide accumulation and morphogenesis in excised cotyledons of *Pinus radiata*. -6th International Congress of Plant Tissue and Cell Culture, Minneapolis, Minnesota, USA. August 3-8, 1986. Abstract p.11.
2. Kumar PP, Reid DM and Thorpe TA. 1987. Ethylene and carbon dioxide accumulation in the headspace and shoot bud differentiation in excised cotyledons of radiata pine. -Tissue Culture Association: 38th Annual Meeting, Washington D.C., May 27 - 30, 1987.
3. Kumar PP and Thorpe TA. 1988. Alteration of morphogenesis in conifer tissue cultures by endogenously produced CO₂ and ethylene. - International Conifer Tissue Culture Work Group – 4th meeting, Saskatoon, Saskatchewan, Canada, August 8 - 12, 1988.
4. Kumar PP, Rao CD and Goh CJ. 1993. Analysis of gene expression associated with organogenesis in excised leaves of *Paulownia fortunei* cultured in vitro. In: Physiological and molecular Aspects of Plant Growth and Differentiation, pp 106-115. - JSPS-NUS Seminar, Univ. of Tsukuba, Tsukuba, Japan, 23-25 August 1993.
5. Kumar PP, Nathan MJ and Goh CJ. 1993. Physiological and developmental studies on tissue cultures of *Heliconia psittacorum* L.f. pp 530 (Abstract) In: XV International Botanical Congress, Yokohama, Japan, 28 Aug. - 03 Sept. 1993.
6. Goh CJ, Kumar PP and Yau JCK. 1995. Genetic variations detected with RAPD markers in *Heliconia*. Proceedings of XVIII Eucarpia Symposium - Section Ornamentals. Ornamental Plant Improvement - Classical and Molecular Approaches. Tel Aviv, Israel, 05-09 March 1995.
7. Kumar PP and Prakash AP. 2000. A novel MADS-box gene is required for shoot bud induction in excised leaf cultures of *Paulownia kawakamii*. Presented at the 2000 World Congress on In Vitro Biology, June 10-15, 2000, San Diego, CA, USA.
8. Kumar PP, Prakash AP and Kumar BD. 2000. Gene expression associated with organogenesis in vitro. Presented at the Asia Pacific Conference on Plant Tissue Culture & Agribiotechnology, held in Singapore (19th to 23rd November, 2000). Abstract number A9, pp 11.
9. Kumar BD, Ranganathan S and Kumar PP. The structure of a plant S-adenosylhomocysteine hydrolase protein that acts as a cytokinin binding protein in petunia. Presented at the International Symposium on Structural Biology, Proteomics, Protein Folding and Design (27-29 November 2000), Singapore.
10. Kumar PP, Kumar B.D. and Ranganathan S. 2002. Antisense suppression of a cytokinin-binding protein from petunia causes excessive branching and reduces adventitious shoot bud induction in vitro. Oral Presentation at the International Association of Plant Tissue Culture & Biotechnology Congress, Orlando, Florida (23rd to 28th June 2002). Abstract number S-34 (proceedings to be published).

11. Kumar PP. 2003. Gene expression associated with organogenesis in plant tissue cultures. Presented as a keynote address at the Frontiers of Basic & Applied Molecular Biology, University of Calcutta, India, January 9 to 11, 2003.
12. Zhang P, Pwee KH, Tan HT, Kumar PP. 2004. Reproductive organ development in *Arabidopsis* and *Cycas*: Conservation of *AGAMOUS* gene function during 300 million years of evolution. Presented as a keynote address at the National Tissue Culture Association meeting, St. Aloysius College, Mangalore, India, January 15-17, 2004.
13. Kumar PP. 2004. Gene expression associated with organogenesis. Co-chair of a special symposium and invited speaker at the Society for In Vitro Biology meeting, in San Francisco. Symposium title: Organogenesis In Vitro. (May 22 to 25, 2004, San Francisco, CA, USA).
14. Kumar PP. 2004. Gene expression associated with organogenesis. Invited talk at the symposium of Korean Society of Plant Resources, 29th October, 2004.
15. Kumar PP. 2005. Crop improvement – the biotechnology option. Invited talk at the 2005 Spring Meeting, Korean Society for Plant Biotechnology, Daejeon, South Korea, 22-23 April 2005.
16. Xu Y, Yu H, Kumar PP. Characterization of floral organ identity genes of the orchid *Dendrobium crumenatum*. Invited keynote talk at the Asia Pacific Conference on Plant Tissue Culture and Agribiotechnology, 2007, Kuala Lumpur, Malaysia June 18 - 21, 2007.
17. Kumar PP. Biotechnological improvements of crop plants. Invited talk at the International Conference on 'Developments in Biotechnology', Stella Maris College, Chennai, India, 08 Jan 2008.
18. Kumar PP. 2008. Modification of hormone signaling for improvement of plants. – Keynote address - Presented on 25th Aug 2008 at the 6th International Society for Horticultural Science Conference, Brisbane, Australia, Aug 24 to 28th, 2008.