References

Abe H, Urao T, Ito T, Seki M, Shinozaki K, Yamaguchi-Shinozaki K. 2003. *Arabidopsis AtMYC2* (*bHLH*) and *AtMYB2* (*MYB*) function as transcriptional activators in abscisic acid signaling. *Plant Cell* **15**:63-78.

Abe H, Yamaguchi-Shinozaki K, Urao T, Iwasaki T, Hosokawa D, Shinozaki K. 1997. Role of *Arabidopsis MYC* and *MYB* homologs in drought- and abscisic acid-regulated gene expression. *Plant Cell* **9**:1859-1868.

Agarwal M, Hao Y, Kapoor A, Dong CH, Fujii H, Zheng X, Zhu JK. 2006. A R2R3 type MYB transcription factor is involved in the cold regulation of *CBF* genes and in acquired freezing tolerance. *J. Biol. Chem.* **281**:37636-37645.

Agarwal P, Reddy MP, Chikara J. 2010. WRKY: its structure evolutionary relationship, DNA-binding selectivity, role in stress tolerance and development of plants. *Mol. Biol. Rep*. DOI 10.1007/s11033-010-0504-5.

Agrios GN. 2005. *Plant Pathol*. Fifth ed. *Elsevier Acad. Press*.

Ahn II-P, Lee S-W, Suh S-C. 2007. Rhizobacteria-induced priming in *Arabidopsis* is dependent on ethylene, jasmonic acid and *NPR1*. *Mol. Plant Microbe Interact*. 20:759-768.

Alfano JR, Collmer A. 1996. Bacterial pathogens in plants: life up against the wall. *Plant Cell* **8**:1683-1698.

Allen RD, Bernier F, Lessa PA, Beachy RN. 1989. Nuclear factors interact with a soybean beta-conglycinin enhancer. *Plant Cell* **1**:623-631.

Anderson J, Badruzsaufari E, Schenk P, Manner JM, Desmond O, Ehlet C, Maclean DJ, Ebert PR, Kazan K. 2004. Antagonistic interaction between abscisic acid and jasmonate-

ethylene signaling pathways modulates defense gene expression and disease resistance in *Arabidopsis*. *Plant Cell* **16**:3460-3479.

Apel K, Hirt H. 2004. Reactive oxygen species: metabolism, oxidative stress and signal transduction. *Annu. Rev. Plant Biol*. **55**:373–99.

Applied Biosystems 2001. ABI PRISM 7700 sequence detection system. *User Bulletin* **No. 2**.

Asada K. 2000. The water-water cycle as alternative photon and electron sinks. *Phil. Trans. R. Soc. Lond. B*. **355**:1419-1431.

Baker SS, Wilhelm KS, Thomashow MF. 1994. The 5'-region of *Arabidopsis thaliana cor15a* has *cis*-acting elements that confer cold-, drought- and ABA-regulated gene expression. *Plant Mol. Biol*. **24**:701-713.

Baldwin A. 1996. The NF-$_K$B and I$_K$B proteins: new discoveries and insights. *Annu. Rev. Immunol*. **14**: 649-681.

Ball L, Accotto G-P, Bechtold U, Creissen G, Funck D, Jimenez A, Kular B, Leyland N, Mejia-Carranza J, Reynolds H, Karpinski S, Mullineaux PM. 2004. Evidence for a direct link between glutathione biosynthesis and stress defense gene expression in *Arabidopsis*. *Plant Cell* **16**:2448-2462.

Baranowskij N, Frohberg C, Prat S, Willmitzer L. 1994. A novel DNA binding protein with homology to Myb proteins containing only one repeat can function as a transcriptional activator. *EMBO J*. **13**:5383-5392.

Bardwell VJ, Treisman R. 1994. The POZ domain: a conserved protein-protein interaction motif. *Genes Devel*. **8**:1664-1677.

Bate N, Twell D. 1998. Functional architecture of a late pollen promoter: pollen-specific transcription is developmentally regulated by multiple stage-specific and co-dependent activator elements. *Plant Mol. Biol.* **37**:859-869.

Becerra C, Jahrmann T, Puigdomenech P, Vicient CM. 2004. Ankyrin repeat-containing proteins in *Arabidopsis*: characterization of a novel and abundant group of genes coding ankyrin-transmembrane protein. *Genes* **340**:111-121.

Bechtold N, Ellis J, Pelletier G. 1993. *In planta Agrobacterium*-mediated gene transfer by infiltration of adult *Arabidopsis thaliana* plants. C *R Acad. Sci. Paris Life Sci*. **316:**1194-1199.

Benfey PN, Chua NH. 1990. The cauliflower mosaic virus 35S promoter: combinatorial regulation of transcription in plants. *Sci.* **250**:959-966.

Bergeault K, Bertsch C, Merdinoglu D, Walter B. 2010. Low level of polymorphism in two putative NPR1 homologs in the Vitaceae family. *Biol. Direct* **5**:9-21.

Berrocal-Lobo, Molina A. 2004. *Ethylene response factor 1* mediates *Arabidopsis* resistance to the soilborne fungus *Fusarium oxysporum*. *Mol. Plant-Microbe Interact*. **17**:763-770.

Bevan M. 1984. Binary *Agrobacterium* vectors for plant transformation. *Nucl. Acids Res.* **12**:8711-8721.

Blanco F, Salinas P, Cecchini NM. 2009. Early genomic responses to salicylic acid in *Arabidopsis*. *Plant Mol. Biol*. **70**:79-102.

Block A, Schmelz E, Jones JB, Klee HJ. 2005. Coronatine and salicylic acid: the battle between *Arabidopsis* and *Pseudomonas* for phytohormone control. *Mol. Plant Pathol*. **6**:79-83.

Bonas U, Van den Ackerveken G. 1999. Gene-for-gene interactions: bacterial avirulence proteins specify plant disease resistance. *Curr. Opin. Microbiol*. **2**:94-98.

Bonasera JM, Kim JF, Beer SV. 2006. *PR* genes of apples: identification and expression in response to elicitors and inoculation with *Erwinia amylovora*. *BMC Plant Biol*. **6**:23-35.

Bostock RM. **2005**. Signal crosstalk and induced resistance: straddling the line between cost and benefit. *Annu. Rev. Phytopathol*. **43**:545–580.

Brown JWS. 1986. A catalog of splice junction and putative branch point sequences from plant introns. *Nucl. Acids Res.* **14**:9549-9559.

Brown RL, Kazan K, McGrath KC, Maclean DJ, Manners JM. 2003. A role for the GCC-box in jasmonate-mediated activation of the *PDF1.2* gene of *Arabidopsis*. *Plant Physiol*. **132**:1020-1032.

Buchel AS, Brederode FT, Bol JF, Linthorst HJM. 1999. Mutation of GT-1 binding sites in the *PR-1A* promoter influences the level of inducible gene expression *in vivo*. *Plant Mol. Biol*. **40**:387-396.

Buchel AS, Molenkamp R, Bol JF, Linthorst HJM. 1996. The *PR-1a* promoter contains a number of elements that bind GT-1-like nuclear factors with different affinity. *Plant Mol. Biol*. **30**:493-504.

Busk PK, Pages M. 1998. Regulation of abscisic acid-induced transcription. *Plant Mol. Biol.* **37**:425-435.

Büttner P, Koch F, Voigtk K, Quidde T, Risch S, Blaich R, Bruckner B, Tudzynski P. 1994. Variations in ploidy among isolates of *Botrytis cinerea*: Implications for genetic and molecular analyses. *Curr. Genet*. **25**:445-50.

Canet JV, Dobón A, Roig A, Tornero P. 2010. Structure-function analysis of *npr1* alleles in *Arabidopsis* reveals a role for its paralogs in the perception of salicylic acid. *Plant Cell Environ*. **33**:1911-1922.

Cao H, Bowling SA, Gordon SA, Dong X. 1994. Characterization of an *Arabidopsis* mutant that is nonresponsive to inducers of systemic acquired resistance. *Plant Cell* **6**:1583-1592.

Cao H, Glazebrook J, Clarke JD, Volko S, Dong X. 1997. The *Arabidopsis NPR1* gene that controls systemic acquired resistance encodes a novel protein containing ankyrin repeats. *Cell* **88**:57-63.

Cao H, Li X, Dong X. 1998. Generation of broad-spectrum disease resistance by over expression of an essential regulatory gene in systemic acquired resistance. *Proc. Natl. Acad. Sci. USA*. **95**:6531–6536.

Cercos M, Gomez-Cadenas A, Ho THD. 1999. Hormonal regulation of a cysteine proteinase gene, *EPB-1*, in barley aleurone layers: *cis*- and *trans*-acting elements involved in the co-ordinated gene expression regulated by gibberellins and abscisic acid. *Plant J.* **19**:107-118.

Chakravarthy S, Tuori RP, DAscenzo MD, Fobe PR, Despres C, Martin GB. 2003. The tomato transcription factor *Pti4* regulates defense-related gene expression via GCC box and non-GCC box *cis* elements. *Plant Cell* **15**:3033-3050.

Chang SS, Park SK, Kim BC, Kang BJ, Kim DU, Nam HG. **1994**. Stable genetic transformation of *Arabidopsis thaliana* by *Agrobacterium* inoculation *in planta*. *Plant J.* **5**:551-558.

Chaubet N, Flenet M, Clement B, Brignon P, Gigot C. 1996. Identification of *cis*-elements regulating the expression of an *Arabidopsis* histone *H4* gene. *Plant J.* **10**:425-435.

Chen C, Chen Z. 2000. Isolation and characterization of two pathogen- and salicylic acid-induced genes encoding WRKY DNA-binding proteins from tobacco. *Plant Mol. Biol.* **42**:387-396.

Chen C, Chen Z. 2002. Potentiation of developmentally regulated plant defense response by *AtWRKY18*, a pathogen-induced *Arabidopsis* transcription factor. *Plant Physiol.* **129**:706-716.

Chen H, Nelson RS, Sherwood JL. 1994. Enhanced recovery of transformants of *Agrobacterium tumefaciens* after freeze-thaw transformation and drug selection. *Biotech.* **16**:664–670.

Chen W, Prova NJ, Glazebrook J, Katagiri F, Chang HS, Eulgem T, Mauch F, Luan S, Zou G, Whitham SA, Budworth PR, Tao Y, Xie 2002. Expression profile matrix of *Arabidopsis* transcription factor genes suggests their putative functions in response to environmental stresses. *Plant Cell* **14**:559-574.

Cheong YH, Moon BC, Kim JK, Kim CY, Kim MC, Kim IH, Park CY, Kim CJ, Park BO, Koo SC, Yoon HW, Chung WS, Lim CO, Lee SY, Cho MJ. 2003. BWMK1, a rice mitogen-activated protein kinase, locates in the nucleus and mediates pathogenesis-related gene expression by activation of a transcription factor. *Plant Physiol*. **132**:1961-1972.

Chern M, Fitzgerald HA, Canlas PE, Navarre DA, Ronald PC. 2005. Over-expression of a rice *NPR1* homolog leads to constitutive activation of defense response and hypersensitivity to light. *Mol. Plant-Microbe Interact*. **18**:511–520.

Chern M, Fitzgerald HA, Yadav RC, Canlas PE, Dong X, Ronald PC. 2001. Evidence for a disease-resistance pathway in rice similar to the *NPR1*-mediated signaling pathway in *Arabidopsis*. *Plant J*. **27**:101-113.

Chinnusamy V, Ohta M, Kanrar S, Lee BH, Hong X, Agarwal M, Zhu JK. 2003. *ICE1*: a regulator of cold-induced transcriptome and freezing tolerance in *Arabidopsis*. *Genes Dev.* **17**:1043-1054.

Chinnusamy V, Schumaker K, Zhu JK. 2004. Molecular genetic perspectives on cross-talk and specificity in abiotic stress signaling in plants. *J. Exp. Bot.* **55**:225-236.

Choi HW, Kim YJ, Lee SC, Hong JK, Hwang BK. 2007. Hydrogen peroxide generation by pepper extracellular peroxidase $CaPO_2$ activates local and systemic cell death and defense response to bacterial pathogens. *Plant Physiol*. **145**:8890-904.

Clough SJ, Bent AF. 1998. Floral dip: a simplified method for *Agrobacterium*-mediated transformation of *Arabidopsis thaliana*. *Plant J*. **16**:735-743.

Cobbett CS, May MJ, Howden R, Rolls B. 1998. The glutathione deficient, cadmium-sensitive mutant, *cad2-1* of *Arabidopsis thaliana* is deficient in γ-glutamylcysteine synthetase. *Plant J*. **16**:73-78.

Colville L, Smirnoff N. 2008. Antioxidant status, peroxidise activity and PR protein transcript levels in ascorbate-deficient *Arabidopsis thaliana vtc* mutants. *J. Exp. Bot*. **59**:3857-3868.

Cronklin PL, Gatzek Saracco SA, Norris SR, last RL. 2000. Identification of ascorbic acid-deficient *Arabidopsis thialana* mutants. *Genetics* 154:847-856.

Davies DR, Bindschedler LV, Strickland TS, Bolwell GP. 2006. Production of reactive oxygen species in *Arabidopsis thaliana* cell suspension cultures in response to an elicitor from *Fusarium oxysporum*: implications for basal resistance. *J. Exp. Bot*. **57**:1817-1827.

De Buck S, Jacobs A, Van Montagu M, Depicker A. 1998. *Agrobacterium tumefaciens* transformation and co-transformation frequencies of *Arabidopsis thaliana* root explants and transformed tobacco protoplast. *Mol. Plant Microbe Interact.* **11**:449-457.

De Pater S, Greco V, Pham K, memelink J, Kijne J. 1996. Characterization of a zinc-dependent transcriptional activator from *Arabidopsis*. *Nucl. Acids Res*. **24**:4624-4631.

De Vos M, Van Oosten VR, Van Poecke RMP, Van Pelt JA, Pozo MJ, Mueller MJ, Buchala AJ, Métraux J-P, Van Loon LC, Dicke M, Pieterse CMJ. 2005. Signal signature and transcriptome changes of *Arabidopsis* during pathogen and insect attack. *Mol. Plant-Microbe Interact*. **18**:923-937.

Degenhardt J, Tobin EM 1996. A DNA binding activity for one of two closely defined phytochrome regulatory elements in an Lhcb promoter is more abundant in etiolated than in green plants. *Plant Cell* **8**:31-41.

Dehestani A, Ahmadian G, Salmanian AH, Jelodar NB, Seyedi M, Kazemitabar K. 2009. Investigation into the *Arabidopsis* transformant selection time and escapes frequency reduction. *Biharean Biologist* **3**:51-58.

Delannoy E, Lyon BR, Marmey P, Jalloul A, Daniel JF, Montillet J L, Essenberg M, Nicole M. 2005. Resistance of cotton towards *Xanthomonas campestris* pv. malvacearum. *Annu. Rev. Phytopathol*. **43**:63-82.

Desikan R, Hancock J, Neill S. 2005. Reactive oxygen species as signaling molecules. In: *Antioxidants and reactive oxygen species in plants* (Smirnoff, N. ed.). Blackwell Publishing Ltd. **Pp**. 169-191.

Després C, Chubak C, Rochon A, Clark R, Bethune T, Desveaux D, Fobert PR. 2003. The *Arabidopsis* NPR1 disease resistance protein is a novel cofactor that confers redox regulation of DNA binding activity of the basic domain/leucine zipper transcription factor TGA1. *Plant Cell* **15**:2181-2191.

Després C, DeLong C, Glaze S, Liu E, Pierre R. 2000. The *Arabidopsis* NPR1/NIM1 protein enhances the DNA binding activity of a subgroup of the TGA family of bZIP transcription factors. *Plant Cell* **12**:279-290.

Diaz-Martin J, Almogue C, Prieto-Dapena P, Espinosa JM, Jordano J. 2005. Functional interaction between two transcription factors involved in the developmental regulation of a small heat stress protein gene promoter. *Plant Physiol.* **139**:1483-1494.

Divi UK, Rahman T, Krishna P. 2010. Brassinosteroids-mediated stress tolerance in *Arabidopsis* show interactions with abscisic acid, ethylene and salicylic acid pathways. *Plant Biol*. **10**:151-164.

Donald RGK, Cashmore AR. 1990. Mutation of either G box or I box sequences profoundly affects expression from the *Arabidopsis rbcS-1A* promoter. *EMBO J.* **9**:1717-1726.

Dubouzet JG, Sakuma Y, Ito Y, Kasuga M, Dubouzet EG, Miu S, Seki M, Shinozaki K, Yamaguchi-Shinozaki K. 2003. *OsDREB* genes in rice, *Oryza sativa* L., encode transcription activators that function in drought-, high-salt- and cold-responsive gene expression. *Plant J*. **33**:751-763.

Dunn MA, White AJ, Vural S, Hughes MA. 1998. Identification of promoter elements in a low-temperature-responsive gene (*blt4.9*) from barley (*Hordeum vulgare* L.). *Plant Mol. Biol.* **38**:551-564.

Ellerstrom M, Stalberg K, EzcurI, Rask L. 1996. Functional dissection of a *napin* gene promoter: identification of promoter elements required for embryo and endosperm-specific transcription. *Plant Mol. Biol.* **32**:1019-1027.

Elmayan T, Tepfer M. 1995. Evaluation in tobacco of the organ specificity and strength of the *rol* D promoter, domain A of the 35S promoter and the 35S^2 promoter. *Transgenic Res.* **4**:388-396.

Endah R, Beyene G, Kiggundu A, Van den Berg N, Schlüter U, Kunert K, Chikwamba R. 2008. Elicitor and *Fusarium*-induced expression of *NPR1*-like genes in banana. *Plant Physiol. Biochem*. **46**:1007-1014.

Endah R, Coutinho T, Chikwamba R. 2010. .*Xanthomonas campestris* pv *musacearum* induces sequential expression of two *NPR1* like genes in banana. *Aspects Appl. Biol*. **96**, Agriculture: Africa's "engine for growth" Plant Science and Biotechnology holds the key, 325-330.

Euglem T. 2005. Regulation of the *Arabidopsis* defense transcriptome. *Trends Plant Sci*. **10**:71-78.

Euglem T. 2006. Dissecting the WRKY web of plant defence regulation. *PLoSPathogens* **2**:1028-1030.

Eulgem T, Rushton PJ, Robatzek S, Somssich IE. 2000. The WRKY super family of plant transcription factors. *Trends Plant Sci*. **5**:199-206.

Eulgem T, Rushton PJ, Schmelzer E, Hahlbrock K, Somssich IE. 1999. Early nuclear events in plant defense signaling: rapid gene activation by WRKY transcription factors. *EMBO J*. **8**:4689-4699.

Eulgem T, Somssich I. 2007. Networks of WRKY transcription factors in defense signaling. *Curr. Opin. Plant Biol*. **10**:366–371.

Ezcurra I, Ellerstrom M, Wycliffe P, Stalberg K, Rask L. 1999. Interaction between composite elements in the *napA* promoter: both the B-box, ABA-responsive complex and the RY/G complex are necessary for seed-specific expression. *Plant Mol. Biol.* **40**:699-709.

Ezcurra I, Wycliffe P, Nehlin L, Ellerstrom M, Rask L. 2000. Transactivation of the *Brassica napus* napin promoter by *ABI3* requires interaction of the conserved B2 and B3 domains of *ABI3* with different *cis*-elements: B2 mediates activation through an ABRE, whereas B3 interacts with an RY/G-box. *Plant J.* 24:57-66.

Fan J, Crooks C, Lamb C. 2008. High throughput quantitative luminescence assay of the growth *in planta* of *Pseudomonas syringae* chromosomally tagged with *Photorhabdus luminescens lux*CDABE. *Plant J.* **53**:393-399.

Feldmann KA, Marks MD. 1987. *Agrobacterium*-mediated transformation of germinating seeds of *Arabidopsis thaliana*: a non-tissue culture approach. *Mol. Gen. Genet.* **208:**1-9

Ferreira RB, Monteiro S, Freitas R, Santos CN, Chen Z, Batista LM, Duarte J, Borges A, Teixeira AR. 2007. The role of plant defense proteins in fungal pathogenesis. *Mol. Plant Pathol.* **8**:677-700.

Fitzgerald HA, Chern M, Navarre R, Ronald PC. 2004. Over expression of (*At*)*NPR1* in rice leads to a BTH- and environment-induced lesion-mimic/cell death phenotype. *Mol. Plant-Microbe Interact*. **17**:140-151.

Foyer CH, Gomez LD, Van Heerden PDR. 2005. Glutathione. In: *Antioxidants and reactive oxygen species in plants* (Smirnoff, N. ed.). Blackwell publishing Ltd. **Pp**. 1-18.

Foyer CH, Noctor G. 2005. Oxidant and antioxidant signaling in plants: an evaluation of the concept of oxidative stress in a physiological context. *Plant, Cell Environ*. **28**:1056-1071.

Fritig B, Heitz T, Legrand M. 1998. Antimicrobial proteins in induced plant defense. *Curr. Opin. Immunol*. **10**:16-22.

Fujimoto S, Ohta M, Usui A, Shinshi H, Ohme-Takagi M. 2000. *Arabidospsis* Ethylene-responsive element binding factors act as transcriptional activators or repressors of GCC box-mediated gene expression. *Plant Cell* **12**:393-404.

Fusada N, Masuda T, Kuroda H, Shimada H, Ohta H, Takamiya K. 2002. Identification of a novel *cis*-element exhibiting cytokinin-dependent protein binding *in-vitro* in the 5'-region of *NADPH-protochlorophyllide oxidoreductase* gene in cucumber. *Plant. Mol. Biol.* **59**: 631-645.

Gandhi S, Chand JN. 1988. Plant age, temperature and free moisture in relation to susceptibility of cluster bean to *Xanthomonas campestris* pv. *cyamopsidis*. *Proc. India Acad. Sci*. **98**:49-53.

Gelvin AB. 2003. *Agrobacterium*-mediated plant transformation: the biology behind the "gene-jockeying" tool. *Microbiol. Mol. Biol. Reviews* **67**:16-37.

Ghanta S, Bhattacharyya D, Sinha R, Banerjee A, Chattopadhyay S. 2011. *Nicotiana tabacum* overexpressing *γ-ECS* exhibits biotic stress tolerance likely through *NPR1*-dependent salicylic acid-mediated pathway. *Planta*: DOI 10.10007/s00425-011-1249-4.

Gidoni D, Brosio P, Bond-Nutter D, Bedbrook J, Dunsmuir P. 1989. Novel *cis*-acting elements in Petunia *Cab* gene promoters. *Mol. Gen. Genet.* **215**: 337-344.

Gill SS, Tuteja N. 2010. Reactive oxygen species and antioxidant machinery in abiotic stress tolerance in crop plants. *Plant Physiol. Biochem*. **48**:909-930.

Gilmartin PM, Sarokin L, Memelink J, Chua N-H. 1990. Molecular light switches for plant genes. *Plant Cell* **2**:369-378.

Giuliano G, Pichersky E, Malik VS, Timko MP, Scolnik PA, Cashmore AR. 1988. An evolutionarily conserved protein binding sequence upstream of a plant light-regulated gene. *Proc Natl. Acad. Sci. USA*. **85**:7089-7093.

Glazebrook J, Rogers EE, Ausubel FM. 1996. Isolation of *Arabidopsis* mutants with enhanced disease susceptibility by direct screening. *Genetics* **143**:973-982.

Glazebrook J. 2005. Contrasting mechanisms of defense against biotrophic and necrotrophic pathogens. *Annu. Rev. Phytopathol*. **43**:205-227.

Goda H, Sawa S, Asami T, Fujioka S, Shimada Y, Yoshida S. 2004. Comprehensive comparison of auxin-regulated and brassinosteroid-regulated genes in *Arabidopsis*. *Plant Physiol*. **134**:1555-1573.

Goldsbrough AP, Albrecht H, Stratfo R. 1993. Salicylic acid-inducible binding of a tobacco nuclear protein to a 10 bp sequence which is highly conserved amongst stress-inducible genes. *Plant J*. **3**:563-571.

Gomez LD, Noctor G, Knight MR, Foyer CH. 2004. Regulation of calcium signaling and gene expression by glutathione. *J. Exp. Bot*. **55**:1851-1859.

Grant M, Lamb C. 2006. Systemic immunity. *Curr. Opin. Plant Biol*. **9**:414-420.

Gross P, Oelgeschläger T. 2006. Core promoter-selective RNA polymerase II transcription. *Biochem. Soc. Symp*. **73**:225-236.

Gubler F, Kalla R, Roberts JK, Jacobsen JV. 1995. Gibberellin-regulated expression of a *myb* gene in barley aleurone cells: evidence for *Myb* transactivation of a high-pl alpha-amylase gene promoter. *Plant Cell* **7**:1879-1891.

Ha CM, Jun JH, Nam HG, Fletcher JC. 2004. BLADE-ON-PETIOLE1 encodes a BTB/POZ domain protein required for leaf morphogenesis in *Arabidopsis thaliana*. *Plant Cell Physiol*. **45**:1361-1370.

Hagen G, Guilfoyle T. 2002. Auxin-responsive gene expression: genes, promoters and regulatory factors. *Plant Mol. Biol*. **49**:373-385.

Hahlbrock K, Bednarek P, Ciolkowski I, Hamberger B, Heise A, Liedgens H, Logemann E, Nurnberger T, Schmelzer E, Somissich I, Tan J. 2003. Non-self recognition, transcriptional reprogramming and secondary metabolite accumulation during plant/pathogen interaction. *Proc. Natl. Acad. Sci. USA*. **100**:145689-14576.

Harelimana G, Lepoive P, Jijakli H, Mourichon X. 1997. Use of Mycospharella Fijiensis toxins for the selection of banana cultivars resistant to Black leaf streak. *Euphytica* **96**:125-128.

Harper RM, Stowe-Evans EL, Luesse DR, Muto H, Tatematsu K, Watahiki MK, Yamamoto K, Liscum E. 2000. The NPH4 locus encodes the auxin response factor *ARF7*, a conditional regulator of differential growth in aerial *Arabidopsis* tissue. *Plant Cell* **12**:757-770.

Harrison SJ, Mott EK, Parsley K, Aspinall S, Gray JC, Cottage A. 2006. A rapid and robust method of identifying transformed Arabidopsis thaliana seedlings following floral did transformation. *Plant Methods* **2**:18-24.

Hartmann U, Sagasser M, Mehrtens F, Stracke R, Weisshaar B. 2005. Differential combinatorial interactions of *cis*-acting elements recognized by *R2R3-MYB*, *BZIP* and *BHLH* factors control light-responsive and tissue-specific activation of phenylpropanoid biosynthesis genes. *Plant Mol. Biol*. **57**:155-171.

Hayen MS, Gosh S. 2004. Signaling to NF-$_{K}$B. *Genes Dev*. **18**:2195-2224.

Hepworth SR, Zhang Y, McKim S, Li X, Haughn GW. 2005 BLADE-ON-PETIOLE dependent signalling controls leaf and floral patterning in *Arabidopsis*. *Plant Cell* **17**, 1434–1448.

Herman MAB, Davidson JK, Smart CD. 2008. Induction of plant defense gene expression by plant activators and *Pseudomonas syringae* pv. *tomato* in greenhouse-grown tomatoes. *Phytopathol*. **98**:1226-1232.

Higo K, Ugawa M, Iwamoto M, Korenaga T. 1999. Plant *cis*-acting regulatory DNA elements (PLACE) database. *Nucl. Acids Res*. **27**:297-300.

Hossain MM, Sultana F, Kubota M, Koyama H, Hyakumachi M. 2007. The plant growth-promoting fungus *Penicillium simplicissimum* GP17-2 induces resistance in *Arabidopsis thaliana* by activation of multiple defense signals. *Plant Cell Physiol*. **48**:1724-1736.

Hudson ME, Quail PH. 2003. Identification of promoter motifs involved in the network of *phytochrome A*-regulated gene expression by combined analysis of genomic sequence and microarray data. *Plant Physiol*. **133**:1605-1616.

Hwang SC, Ko WH. 2004. Cavendish banana cultivars resistant to *Fusarium* wilt acquired through somaclonal variation in Tawain. *Plant Dis*. **88**:580-588.

Inukai Y, Sakamoto T, Ueguchi-Tanaka M, Shibata Y, Gomi K, UmemuI, Hasegawa Y, Ashikari M, Kitano H, Matsuoka M. 2005. Crown rootless1, which is essential for crown root formation in rice, is a target of an AUXIN RESPONSE FACTOR in auxin signaling. *Plant Cell 17*:1387-1396.

Jeworutzki E, Roelfsema MRG, Anschütz U, Krol E, Elzenga JTM, Felix G, Boller T, Hedrich R, Becker D. 2010. Early signaling through the *Arabidopsis* pattern recognition

receptors FLS2 and EFR involves Ca^{2+}-associated opening of plasma membrane anion channels. *Plant J*. **3**:367-378.

Jiang C, Iu B, Singh J. 1996. Requirement of a CCGAC *cis*-acting element for cold induction of the *BN115* gene from winter *Brassica napus*. *Plant Mol. Biol*. **30**:679-684.

Jiao Y, Ma L, Strickland E, Deng XW. 2005. Conservation and divergence of light-regulated genome expression patterns during seedling development in rice and *Arabidopsis*. *Plant Cell* **17**: 239-3256.

Johansson A, Staal J, Dixelius C. 2006. Early responses in the *Arabidopsis-Verticillium longisporum* pathosystem are dependent on *NDR1*, JA- and ET-associated signals via cytosolic *NPR1* and *RFO1*. *Mol. Plant-Microbe Interact*. **19**:958–969.

Johnson C, Bodern E, Arias J. 2003. Salicylic acid and *NPR1* induce the recruitment of trans-activating TGA factors to a defense gene promoter in *Arabidopsis*. *Plant Cell* **15**:1846-1858.

Kagaya Y, Ohmiya K, Hattori T. 1999. RAV1, a novel DNA-binding protein, binds to bipartite recognition sequence through two distinct DNA-binding domains uniquely found in higher plants. *Nucl. Acids Res.* **27**:470-478.

Kallenbach M, Alagna F, Baldwin IT, Bonaventure G. 2010. *Nicotiana attnuata* SIPK, *WIPK*, *NPR1* and fatty acid-amino acid conjugates participate in the induction of jasmonic acid biosynthesis by affecting early enzymatic steps in the pathway. *Plant Phyiol*. **152**:96-106.

Kanwischer M, Porfirova S, Bergmüller E, Dörmann P. 2005. Alterations in tocopherol cyclase activity in transgenic and mutant plants of *Arabidopsis* affect tocopherol content, tocopherol composition and oxidative stress. *Plant Physiol*. **137**:713-723.

Kaplan B, Davydov O, Knight H, Galon Y, Knight MR, Fluhr R, Fromm H. 2006. Rapid transcriptome changes induced by cytosolic Ca^{2+} transients reveal *ABRE*-related sequences as Ca^{2+}-responsive *cis* elements in *Arabidopsis*. *Plant Cell* **18**:2733-2748.

Katagiri F, Lam E, Chua NH. 1989. Two tobacco DNA-binding proteins with homology to the nuclear factor *CREB*. *Nature* 31:727-730.

Katoh K, Misawa K, Kuma K, Toh H, Miyata T. 2005 MAFFT version 5: Improvement in accuracy of multiple sequence alignment. *Nucl. Acids Res*. 33:511-518.

Kesarwani M, Yoo J, Dong X. 2007. Genetic interactions of TGA transcription factors in the regulation of *pathogenesis-related* genes and disease resistance in *Arabidopsis*. *Plant Physiol*. **144**:336-346.

Kiddle G, Pastori GM, Bernard S, Pignocchi C, Antoniw J, Verrier PJ, Foyer CH. 2003. Effects of leaf ascorbate content on defense and photosynthesis gene expression in *Arabidopsis thaliana*. *Antioxidant Redox Signaling* **5**:23-32.

Kinkema M, Fan W, Dong X. 2000. Nuclear localization of *NPR1* is required for activation of *PR* gene expression. *Plant Cell* **12**:2339-2350.

Klinedinst S, Pascuzzi P, Redman J, Desai M, Arias J. 2000. A xenobiotic-stress-activated transcription factor and its cognate target genes are preferentially expressed in root tip meristems. *Plant Mol. Biol*. **42**:679-688.

Koch E, Slusarenko AJ. 1990. *Arabidopsis* is susceptible to infection by a downy mildew fungus. *Plant Cell* **2**:437-455.

Komori T, Imayama T, Kato N, Ishida Y, Ueki J, Komari T. 2007. Current status of binary vectors and superbinary vectors. *Plant Physiol*. **145**:1155-1160.

Kotochoni SO, Gachomo EW. 2006. The reactive oxygen species network pathways: an essential prerequisite for perception of pathogen attack and the acquired disease resistance in plants. *J. Biosci*. **31**:389-404.

Lacombe S, Rougon-Cardose A, Sherwood E, Peeters N, Dahlbeck D, Van Esse HP, Smoker M, Rallapalli G, Thomma BPHJ, Staskawicz B, Jones JDG, Zipfel C. 2010. Interfamily transfer of plant pattern recognition receptor confers broad spectrum bacterial resistance. *Nature Biotech*. **28**:365-369.

Lam E, Chua NH. 1989. *ASF*-2: A factor that binds to the cauliflower mosaic virus 35S promoter and a conserved GATA motif in cab promoters. *Plant Cell* **1**:1147-1156.

Le Gourrierec J, Li Y-F, Zhou D-X. 1999. Transcriptional activation by *Arabidopsis* GT-1 may be through interaction with TFIIA-TBP-TATA complex. *Plant J*. **18**:663-668.

Le Henanff G, Heitz T, Mestre P, Mutterer J, Walter B, Chong J. 2009. Characterization of *Vitis vinifera NPR1* homologs involved in the regulation of *pathogenesis-related* gene expression. *BMC Plant Biol*. **9**:54-68.

Lee BH, Henderson DA, Zhu JK. 2005. The *Arabidopsis* cold-responsive transcriptome and its regulation by *ICE1*. *Plant Cell* **17**:3155-3175.

Leon-Reyes A, Spoel HS, De lange E, Abe H, Kobayashi M, Tsuda S, Millenaar FF, Welschen RAM, Ritsema T, Pieterse CMJ. 2009. Ethylene modulates the role of the *non-expressor of pathogenesis-related genes1* in cross talk between salicylic and jasmonate signaling. *Plant Physiol*. 149:1797-1809.

Leon-Reyes A, Yujuan D, Koornneef A, Proietti S, Körbes AP, Memelink J, Pieterse CMJ, Ritsema T. 2010. Ethylene signaling renders the jasmonate response of *Arabidopsis* insensitive to future suppression by salicylic acid. *Mol. Plant-Microbe Interact*. **23**:187-197.

Lin W-C, Lu C-F, Wu J-W, Cheng M-L, Lin Y-M, Yang N-S, Black L, Green SK, Wang J-F, Cheng C-P. 2004. Transgenic tomato plants expressing the *Arabidopsis NPR1* gene display enhanced resistance to a spectrum of fungal and bacterial diseases. *Transgenic Res.* **13**:567-581.

Lindermayr C, Sell S, Müller B, Leister D, Durner J. 2010. Redox regulation of the NPR1-TGA1 system of *Arabidopsis thaliana* by nitric oxide. *Plant Cell* **22**:2894-2907.

Liu G, Holub EB, Alonso JM, Ecker JR, Fobert PR. 2005. An *Arabidopsis NPR1*-like gene, *NPR4*, is required for disease resistance. *Plant J.* **41**:304-318.

Liu J, Liu X, Dai L, Wang G. 2007. Recent progress in elucidating the structure, function and evolution of disease resistance genes in plants. *J. Gen. Genomics* **34**:765-776.

Liu X, Bai X, Wang X, Chu C 2007. *Os*WRKY71, a rice transcription factor, is involved in rice defense response. *J. Plant Physiol*. **164**:969-979.

Liu X, Williams CE, Nemacheck JA, Wang H, Subramanyam S, Zheng C, Chen M-S. 2010. Reactive oxygen species are involved in plant defense against a gall midge. *Plant Physiol*. **152:**985-999.

Liu X, Xing D, Li L, Zhang L. 2007. Rapid determination of seed vigor based on the level of superoxide generation during early imbibition. *Photochem. Photobiol. Sci*. **6**:767-774.

Livak KJ, Schmittgen TD. 2001. Analysis of relative gene expression data using real-time quantitative PCR and the 2-ΔΔCT method. *Methods* **25**:402-408.

Logemann E, Parniske M, Hahlbrock K. 1995. Modes of expression and common structural features of the complete phenylalanine ammonia-lyase gene family in parsley. *Proc. Natl. Acad. Sci*. **92**:5905-5906.

Lois R, Dietrich A, Hahlbrock K, Schulz W. 1989. A phenylalanine ammonia-lyase gene from parsley: structure, regulation and identification of elicitor and light responsive *cis*-acting elements. *EMBO J*. **8**:1648-1989.

Luo H, Song F, Goodman RM, Zheng Z. 2005. Up-regulation of OsBIHD1, a rice encoding BELL homeodomain transcriptional factor, in disease resistance response. *Plant Biol*. **7**:459-468.

Luscher B, Eiseman RN. 1990. New light on Myc and *Myb*. *PaII*. Myb. *Genes Dev*. **4**:2235-2241.

Ma W, Qi Z, Smigel A, Walker RK, Verma R, Berkowitz GA. 2009. Ca^{2+}, cAMP and transduction of non-self perception during plant immune responses. *Prot. Natl. Acad. Sci*. **106**:20995-1000 Epub.

Makandar R, Essig JS, Schapaugh MA, Trick HN, Shah J. 2006. Genetically engineered resistance to *Fusarium* head blight in wheat by expression of *Arabidopsis NPR1*. *Mol. Plant-Microbe Interact.* **19**:123-29.

Maleck K, Levine A, Eulgem T, Morgan A, Schmid J, Lawton KA, Dangl JL, Dietrich RA. 2000. The transcriptome of *Arabidopsis thaliana* during systemic acquired resistance. *Nat Genet*. **26**:403-410.

Malnoy M, Jin Q, Borejesza-Wysocka EE, He SY, Aldwinckle HS. 2007. Overexpression of the Apple *MpNPR1* gene confers increased disease resistance in *Malus X. domestica. Mol. Plant-Microbe Interact*. **20**:1568-1580.

Martinez C, Baccou J-C, Bresson E, Baissac Y, Daniel J-F, Jalloul A, Montillet J-L, Geiger J-P, Assigbetsé K, Nicole M. 2000. Salicylic acid mediated by the oxidative burst is a key

molecule in local and systemic responses of cotton challenged by the avirulent race of *Xanthomonas campestris* pv. *m*alvacearum. *Plant Physiol*. **122**:757-766.

Maughan SC, Pasternak M, Cairns N, Kiddle G, Brach T, Jarvis R, Haas F, Nieuwland J, Lim B, Muller C, Salcedo-Sora E, Kruse C, Orsel M, Hell R, Miller AJ, Bray P, Foyer CH, Murray JAH, Meyer AJ, Cobbett CS. 2010. Plant homologs of the *Plasmodium falciparum* chloroquine-resistance transporter, *Pf*CRT, are required for glutathione homeostasis and stress responses. *Proc. Natl. Acad. Sci. USA*. **107**:2331-2336.

Mellersh IVF, Higgins VJ, Heath MC. 2002. H_2O_2 plays different roles in determining penetration failure in three diverse plant-fungal interactions. *Plant J*. **29**:257-2688.

Meur G, Budatha M, Gupta AD, Prakash H, Kirti PB. 2006. Differential induction of *NPR1* during defense responses in *Brassica juncea*. *Physiol. Mol. Plant Pathol.* **68:**128-137.

Mhiri C, Morel JB, Verbhettes S, Casacuberta JM, Lucas H, Graandbastien MA. 1997. The promoter of the tobacco *Tnt1* retrotransposon is induced by wounding and by abiotic stress. *Plant Mol. Biol*. **33**:257-266.

Mohanty B, Krishnan SP, Swarup S, Bajic VB. 2005. Detection and preliminary analysis of motifs in promoters of anaerobically induced genes of different plant species. *Ann. Bot.* **96**:669-681.

Morita A, UmemuT, Kuroyanagi M, FutsuhaY, Perata P, Yamaguchi J. 1998. Functional dissection of a sugar-repressed alpha-amylase gene (*Ramy1A*) promoter in rice embryos. *FEBS Lett*. **423**:81-85.

Mou Z, Fan W, Dong X. 2003. Inducers of plant systemic acquired resistance regulate *NPR1* function through redox changes. *Cell* **113**:935-944.

Mukherjee M, Larrimore KE, Ahmed NJ, Bedlck TS, Barghouthi NT, Traw MB, Barth C. 2010. Ascorbic acid deficiency in *Arabidopsis* induces constitutive priming that is dependent on hydrogen peroxide, salicylic acid and the *NPR1* gene. *Mol. Plant-Microbe Interact.* **23**:340-351.

Mukhtar MS, Nishimura TM, Dangl J. 2009. NPR1 in plant defense: it's not over 'til it's turned over. *Cell* **137**:804-806.

Mur LAJ, Kenton P, Atzorn R, Miersch O, Waternack C. 2006. The outcomes of concentration-specific interactions between salicylate and jasmonate signaling include synergy, antagonism and oxidative stress leading to cell death. *Plant Physiol*. **140**:249-262.

Nag R, Maity MK, Dasgupta M. 2005. Dual DNA binding property of *ABA insensitive 3* like factors targeted to promoters responsive to ABA and auxin. *Plant Mol. Biol*. **59**:821-838.

Ndungo V, Eden-Green S, Blomme G, Crozier J, Smith J. 2006. Presence of banana Xanthomonas wilt (*Xanthomonas campestris* pv. *musacearum*) in the Democratic Rebuplic of Congo (DRC). *Plant Pathol*. **55**:294.

Nemhauser JL, Mockler TC, Chory J. 2004. Interdependency of brassinosteroid and auxin signaling in *Arabidopsis*. *PLoS Biol*. **2**:E258.

Niderman T, Genetet I, Bruyère T, Gees R, Stintzi A, Legrand M, Fritig B, Mösinger E. 1995. Pathogenesis-related PR-1 proteins are antifungal. Isolation and characterization of three 14-kilodalton proteins of tomato and of a basic *PR-1* of tobacco with inhibitory activity against *Phytophthora infestans. Plant Physiol*. **108**:17-27.

Nishiuchi T, Shinshi H, Suzuki K. 2004. Rapid and transient activation of transcription of the *ERF3* gene by wounding in tobacco leaves: Possible involvement of *N*tWRKYs and autorepression. *J. Biol. Chem*. **279**:55355-55361.

Niu D-D, Liu H-X, Jiang C-H, Wang Y-P, Wang Q-Y, Jin H-L, Guo J-H. 2011. The plant growth-promoting rhizobacterium *Bacillus cereus* AR156 induces systemic resistance in *Arabidopsis thaliana* by simultaneously activating salicyliate- and jasmonate/ethylene-dependent signaling pathways. *Mol. Plant-Microbe Interact*. *PMID*:21198361.

Noctor G, Foyer CH. 1998. Ascorbate and glutathione: keeping active oxygen under control. *Ann. Rev. Plant Physiol. Plant Mol. Biol*. **49**:249-279.

Noctor G, Gomez L, Vanacker H, Foyer CH. 2002. Interactions between biosynthesis, compartmentation and transport in the control of glutathione homeostasis and signaling. *J. Exp. Bot.* **53**:1283–1304.

Noupadji P, Tomekpe K. 1999 Agronomic performance of six improved IITA Musa germplasm in the agroecological conditions of Mbalmayo (Cameroon). *INFOMUSA* **8**:13-15.

Noupadji P, Tomepke K. 1999. Agronomic performance of six improved IITA Musa germplasm in the agroecological conditions of Mbalmayo (Cameroon). *INFOMUSA* **8**:13-15.

Nürnberger T, Brunner F, Kemmerling B, Piater L. 2004. Innate immunity in plants and animals: striking similarities and obvious differences. *Immunol. Rev*. **198**:249-266.

Ogawa M, Hanada A, Yamauchi Y, KuwahaA, Kamiya Y, Yamaguchi S. 2003. Gibberellin biosynthesis and response during *Arabidopsis* seed germination. *Plant Cell* **15**:1591-1604.

Oh DH, Kwon CS, Sano H, Chung WI, Koizumi N. 2003. Conservation between animals and plants of the *cis*-acting element involved in the unfolded protein response. *Biochem. Biophys. Res. Commun*. **301**:225-230.

Oh SJ, Song SI, Kim YS, Jang HJ, Kim SY, Kim M, Kim YK, Nahm BH, Kim JK. 2005. *Arabidopsis CBF3/DREB1A* and *ABF3* in transgenic rice increased tolerance to abiotic stress without stunting growth. *Plant Physiol*. **138**:341-351.

Ohme-Takagi M, Suzuki K, Shinshi H. 2000. Regulation of ethylene-induced transcription of defense genes. *Plant Cell Physiol*. **41**:1187-1192.

Oliver RP, Ipcho. 2004. *Arabidopsis* pathology breathes new life into the necrotrophs-vs.-biotrophs classification of fungal pathogens. *Mol. Plant. Pathol*. **5**:347-352.

Oňate-Sánchez L anderson JP, Young J, Singh KB. 2007. *AtERF14*, a member of the ERF family of transcription factors, plays a non-redundant role in plant defense. *Plant Physiol*. **143**:400-409.

Pandey SP, Somssich IE. 2009. The role of WRKY transcription factors in plant immunity. *Plant Physiol*. **150**:1648-1655.

Park CY, Heo WD, Yoo JH, Lee JH, Kim MC, Chun HJ, Moon BC, Kin IH, Park HC, Choi MS, Ok HM, Cheong MS, Lee SM, Kim HS, Lee KH, Lim CO, Chung WS, Cho MJ. 2004. *Pathogenesis-related* gene expression by specific calmodulin isoforms is dependent on *NIM1*, a key regulator of systemic acquired resistance. *Mol. Cells* **18**:207-213.

Park HC, Kim ML, Kang HY, Jeon JM, Yoo JH, Kim MC, Park CY, Jeong JC, Moon BC, Lee JH, Yoon HW, Lee S-H, Chung WS, Lim CO, Lee SY, Hong JC, Cho MJ. 2004. Pathogen- and NaCl-induced expression of the SCaM-4 promoter is mediated in part by a GT-1 box that interacts with a GT-1 like transcription factor. *Plant Physiol*. **135**:2150-2161.

Park SC, lee JR, Kim JY, Hwang I, Nah JW, Cheong H, Park Y, Hahm KS. 2010. PR-1, a novel antifungal protein from pumpkin rinds. *Biotechnol. Lett*. **32**:125-130.

Parkhi V, Kumar V, Campbell LAM, Bell AA, Rathore KS. 2010. Expression of *Arabidopsis NPR1* in transgenic cotton confers resistance to non-defoliating isolates of *Verticillium dahliae* but not the defoliating isolates. *J. Phytopathol*. 158:822-825.

Pavet V, Olmos E, Kiddle M, Mowla S, Kumar S, Antoniw J, Alvarez ME, Foyer CH. 2005. Ascorbic acid deficiency activates cell death and disease resistance responses in *Arabidopsis*. *Plant Physiol*. **139**:1291-1303.

Piechulla B, Merforth N, Rudolph B. 1998. Identification of tomato Lhc promoter regions necessary for circadian expression. *Plant Mol. Biol*. **38**:655-662.

Pieterse CM, van Loon LC. 2004. *NPR1*: the spider in the web of induced resistance signaling pathways. *Curr. Opin. Plant Biol*. **7**:456-464.

Pieterse CMJ, van Loon LC. 1999. Salicylic acid-independent plant defense pathways. *Trends Plant Sci.* **4**:52-58.

Pike SM, Adam AL, Pu X-A, Hoyos ME, Laby R, Beer SV Novacky A. 1998. Effects of *Erwinia amylovora* harpin on tobacco leaf cell membranes are related to leaf necrosis and electrolyte leakage and distinct from perturbations caused by inoculated *E. amylovora*. *Physiol. Mol. Plant Path*. **53**:39-60.

Potlakayala SD, Reed DW, Covello PS, Fobert PR. 2007. Systemic acquired resistance in canola is linked with *pathogenesis-related* gene expression and requires salicylic acid. *Phytopathol*. **97**:794-802.

Qin F, Sakuma Y, Li J, Liu Q, Li YQ, Shinozaki K, Yamaguchi-Shinozaki K. 2004. Cloning and functional analysis of a novel *DREB1/CBF* transcription factor involved in cold-responsive gene expression in *Zea mays* L. *Plant Cell Physiol*. **45**:1042-1052.

Qin XF, Holuigue L, Horvath DM, Chua NH. 1994. Immediate transcription activation by salicylic acid via the cauliflower mosaic virus as-1 element. *Plant Cell* **6**:863-874.

Queval G, Noctor G. 2007. A plate-reader method for the measurement of NAP, NADP, glutathione and ascorbate in tissue extracts. Application to redox profiling during *Arabidopsis* rosette development. *Analytical Biochem.* **363**:58-69.

Quillis J, Peñas G, Messeguer J, Brugidou C, San Segundo B. 2008. The *Arabidopsis AtNPR1* inversely modulates defense responses against fungal, bacterial, or viral pathogens while conferring hypersensitivity to abiotic stresses in transgenic rice. *Mol. Plant-Microbe Interact*. **21**:1215-1231.

Rairdan GJ, Donofrio NM, Delaney TP. 2001. Salicylic acid and NIM1/NPR1-independent gene induction by incompartible *Peronospora parasitica* in *Arabidopsis*. *Mol. Plant-Microbe Interact*. **14**:1235-1246.

Ramírez V, Van der Ent S, García-Andrade J, Coego A, Pieterse CMJ, Vera P. 2010. *OCP3* is an important modulator of *NPR1*-mediated jasmonic aicd-dependent induced defenses in *Arabidopsis*. *Plant Biol*. **10**:199-212.

Redman J, Whitcraft J, Johnson C, Arias J. 2002. Abiotic and biotic stress differentially stimulates *as-1* element activity in *Arabidopsis*. *Plant Cell Rep*. **21**:180-185.

Reyes JC, Muro-Pastor MI, Florencio FJ. 2004. The GATA family of transcription factors in *Arabidopsis* and rice. *Plant Physiol*. **134**:1718-1732.

Rochon A, Boyle P, Wignes T, Fobert PR, Després C. 2006. The coactivation of the *Arabidopsis NPR1* requires the core of its *BTB/POZ* domain and the oxidation of C-terminal cysteines. *Plant Cell* **8**:3670-3685.

Rose A, Meier I, Wienand U. 1999. The tomato I-box binding factor *LeMYBI* is a member of a novel class of Myb-like proteins. *Plant J*. **20**:641-652.

Rubio-Somoza I, Martinez M, Abraham Z, Diaz I, Carbonero P. 2006. Ternary complex formation between *HvMYBS3* and other factors involved in transcriptional control in barley seeds. *Plant J*. **47**:269-281.

Rushton PJ, Reinstadler A, Lipka V, Lippok B, Somssich IE. 2002. Synthetic plant promoters containing defined regulatory elements provide novel insights into pathogen- and wound-induced signaling. *Plant Cell*. **14**:749-762.

Rushton PJ, Torres JT, Parniske M, Wernert P, Hahlbrock K, Somssich I. 1996. Interaction of elicitor-induced DNA-binding proteins with elicitor response elements in the promoters of parsley *PR1* genes. *EMBO J*. **15**:5690-5700.

Ryals J, Weymann K, Lawton K, Friedrich L, Ellis D, Steiner H-Y, Johnson J, Delaney TP, Jesse T, Vos P, Uknes S. 1997. The *Arabidopsis* NIM1 protein shows homology to the mammalian transcription factor inhibitor I_KB. *Plant Cell* **9**:425-439.

Sambrook J, Fritsch EF, Maniatis T. 1989. Molecular cloning. A laboratory manual. 2nd edition. Cold spring harbor press. **Pp**.1.22-1.28.

Sambrook J, Russell D. 2001. Molecular cloning. A laboratory manual. 3nd edition. Cold spring harbor press. **Pp**.1.27-1.49.

Sandhu D, Tasma MI, Frasch R, Bhattacharyya MK. 2009. Systemic acquired resistance in soybean is regulated by two proteins orthologous to *Arabidopsis NPR1*. *Plant Biol*. **9**:105-119.

SAS Institute Inc. SAS® v9.2. Cary, NC: SAS Institute Inc.

Sato F, Kitajima S, Koyama T, Yamada Y. 1996. Ethylene-induced gene expression of osmotin-like protein, a neutral isoform of tobacco *PR-5*, is mediated by the AGCCGCC *cis*-sequence. *Plant Cell Physiol*. **37**:249-255.

Schoonbeek H, van Nistelrooy JGM, de Waard A. 2003. Functional analysis of ABC transporter genes from *Botrytis cinerea* identifies BcatrB as a transporter of eugenol. *European J. Plant Pathol.* **109**:1003–1011.

Selitrennikoff CP. 2001. Antifungal proteins. *Appl. Environ. Microbiol*. **67**:2883-2894.

Shi Z, Maximova SN, Liu Y, Verica J, Guiltinan MJ. 2010. Functional analysis of the *Theobroma cacao NPR1* gene in *Arabidopsis*. *Plant Biol*. 10:248-265.

Skinner JS, von Zitzewitz J, Szucs P, Marquez-Cedillo L, Filichkin T, Amundsen K, Stockinger EJ, Thomashow MF, Chen TH, Hayes PM. 2005. Structural, functional and phylogenetic characterization of a large *CBF* gene family in barley. *Plant. Mol. Biol.* **59**:33-551.

Smirnoff N. 1996. The function and metabolism of ascorbic acid in plants. *Annals Bot*. 78:661-669.

Sohn KH, Lee SC, Jung HW, Hong JK, Hwang BK. 2006. Expression and functional roles of the pepper pathogen-induced transcription factor RAV1 in bacterial disease resistance and drought and salt stress tolerance. *Plant Mol. Biol*. **61**:897-915.

Solano R, Nieto C, Avila J, Canas L, Diaz I, Paz-Ares J. 1995. Dual DNA binding specificity of a petal epidermis-specific *MYB* transcription factor (*MYB.Ph3*) from Petunia hybrid. *EMBO J*. 14:1773-1784.

Solomon A, Golubowicz S, Yablowicz Z, Bergman M, Grossman S, Altman A, Kerem Z, Flaishman A. 2010. EPR studies of $O_2^{\cdot-}$, OH and $^1O_2$ scavenging and prevention of glutathione depletion in fibroblast cells by cyanidin-3-rhamnoglucoside isolated from fig (*Ficus carica* L.) fruits. *J. Agric. Food Chem*. **58**:7158-7165.

Spoel SH, Johnson JS, Dong X. 2007. Regulation of tradeoffs between plant defenses against pathogens with different lifestyles. *Proc. Natl. Acad. Sci. USA* **104**:18842-18847.

Spoel SH, Mou Z, Tada Y, Spivey NW, Genschik P, Dong X. 2009. Proteasome-mediated turnover of the transcription co-activator NPR1 plays dual roles in regulating plant immunity. *Cell* **137**:860-872.

Srinivasan T, Kumar KR, Meur G, Kirti PB. 2009. Heterologous expression of *Arabidopsis NPR1* (*AtNPR1*) enhances oxidative stress tolerance in transgenic tobacco plants. *Biotechnol. Lett*. **31**:1343-51.

StatSoft, Inc. 2006. STATISTICA (data analysis software system), version 7.1. www.statsoft.com.

Stein E, Molitor A, Kogel K-H, Waller F. 2008. Systemic resistance in *Arabidopsis* conferred by the mycorrhizal fungus *Piriformospora indica* required jasmonic acid signaling and the cytoplasmic function of *NPR1*. *Plant Cell Physiol*. **49**:1747-1751.

Stover RH, Buddenhagen IW. 1986 Banana breeding: polyploidy, disease resistance and productivity. *Fruits* **41**:175-191.

Stover RH, Buddenhagen IW. 1986. Banana breeding: polyploidy, disease resistance and productivity. *Fruits* **41**:175-191.

Sutoh K, Yamauchi D. 2003. Two *cis*-acting elements necessary and sufficient for gibberellins-upregulated proteinase expression in rice seeds. *Plant J*. **34**:635-645.

Suzuki M, Ketterling MG, McCarty DR. 2005. Quantitative statistical analysis of *cis*-regulatory sequences in ABA/*VP1*- and CBF/*DREB1*-regulated genes of *Arabidopsis*. *Plant Physiol*.**139**:437-447.

Svensson JT, Crosatti C, Campoli C, Bassi R, Stanca AM, Close TJ, Cattivelli L. 2006. Transcriptome analysis of cold acclimation in barley *albina* and *xantha* mutants. *Plant Physiol*. 141:257-270.

Tada Y, Spoel SH, Pajerowska-Mukhtar K, Mou Z, Song J, Dong X. 2008. S-nitrosylation and thioredoxins regulate conformational changes of *NPR1* in plant innate immunity. *Sci*. **321**:952-956.

Tamura K, Dudley J, Nei M, Kumar S. 2007 MEGA4: Molecular Evolutionary Genetics Analysis (MEGA) software version 4.0. *Mol. Biol. Evol*. **24**:1596-1599.

Tao Z, Liu H, Qiu D, Zhou Y, Li X, Xu C, Wang S. 2009. A pair of allelic *WRKY* genes play opposite role in rice-bacteria interactions. *Plant Physiol. Preview DOI: 10.1104*/pp. 109.145623.

Teakle GR, Manfield IW, Graham JF, Gilmartin PM. 2002. *Arabidopsis thaliana* GATA factors: organisation, expression and DNA-binding characteristics. *Plant Mol. Biol*. **50**:43-57.

Terzaghi WB, Cashmore AR. 1995. Light-regulated transcription. *Annu Rev. Plant Physiol. Plant Mol. Biol*. 46:445-474.

Thaler JS, Owen B, Higgins VJ. 2004. The role of the jasmonate response in plant susceptibility to diverse pathogens with a range of lifestyles. *Plant Physiol*. **135**:530-538.

The *Arabidopsis* Genome initiative 2000. Analysis of the genome sequence of the flowering plant *Arabidopsis thaliana*. *Nature* **408**:796-815.

Thomma BPHJ, Eggermont K, Penninckx IAMA, Mauch-Mani B, Vogelsang R, Cammue BPA, Broekaert WF. 1998. Separate jasmonate-dependent and salicylate-dependent defense response pathways in *Arabidopsis* are essential for resistance to distinct microbial pathogens. *Proc. Natl. Acad. Sci. USA*. **95**:15107-15111.

Thomma, BPHJ, Tierens KFM, Oenninckx IAMA, Mauch-Mani B, Broekaert WF, Cammue BPA. 2001. Different micro-organisms differentially induce *Arabidopsis* disease response pathways. *Plant Physiol. Biochem*. **39**:673-680.

Thompson JD, Higgins DG, Gibson TJ. 1994. ClustalW: improving the sensitivity of progressive multiple sequence alignment through sequence weighting, position-specific gap penalties and weight matrix choice. *Nucl. Acids Res*. **22**:4673-4680.

Thum KE, Kim M, Morishige DT, Eibl C, Koop HU, Mullet JE. 2001. Analysis of barley chloroplast *psbD* light-responsive promoter elements in transplastomic tobacco. *Plant Mol. Biol*. **47**:353-366.

Tushemereirwe W, Kangire A, Ssekiwoko F, Offord F, Crozier L C, Boa E, Rutherford M, Smith JJ. 2004. First report of *Xanthomonas campestris* pv. *musacearum* on banana in Uganda. *Plant Pathol*. **53**:802.

Ulmasov T, Hagen G, Guilfoyle TJ. 1999. Dimerization and DNA binding of auxin response factors. *Plant J*. 19:309-319.

Urao T, Yamaguchi-Shinozaki K, Urao S, Shinozaki K. 1993. An *Arabidopsis myb* homolog is induced by dehydration stress and its gene product binds to the conserved MYB recognition sequence. *Plant Cell* **5**:1529-1539.

Valvekens D, Montague MV, Lijsbettens MV. 1988. *Agrobacterium tumefaciens*-mediated transformation of *Arabidopsis thaliana* root explants by using kanamycin selection. *Proc. Natl. Acad. Sci. USA*. **85:**5536-5540.

Van Loon LC, Rep M, Pieterse CMJ. 2006. Significance of inducible defense-related proteins in infected plants. *Annu. Rev. Phytopathol*. **44**:135-162.

Van Wees SCM, De Swart EAM, Van Pelt JA, Van Loon LC, Pieterse CMJ. 2000. Enhancement of induced disease resistance by simultaneous activation of salicylate- and jasmonate-dependent defense pathways in *Arabidopsis thaliana*. *Proc. Natl. Acad. Sci. USA.* **97**:8711-8716.

Verhagen BWM, Glazebrook J, Zhu T, Chang H-S, Van Loon LC, Pieterse CMJ. 2004. The transcriptome of rhizobacteria-induced systemic resistance in *Arabidopsis*. *Mol. Plant-Microbe Interact*. **17**:895-908.

Villain P, Mache R, Zhou DX. 1996. The mechanism of GT element-mediated cell type-specific transcriptional control. *J. Biol. Chem*. **271**:32593-32598.

Volko SM, Boller T, Ausubel FM. 1998. Isolation of new mutants with enhanced disease susceptibility to *Pseudomonas syringae* by direct screening. *Genetics* **149**:527-548.

von Gromoff ED, Schroda M, Oster U, Beck CF. 2006. Identification of a plastid response element that acts as an enhancer within the *Chlamydomonas HSP70A* promoter. *Nucl. Acids Res.* **34**:4767-4779.

Wally O, Jayaraj J, Punja ZK. 2009. Broad-spectrum disease resistance to necrotrophic and biotrophic pathogens in transgenic carrots (*Daucus carota* L.) expressing an *Arabidopsis NPR1* gene. *Planta* **231**:131-141.

Wang D, Amornsiripanitch N, Dong X. 2006. A genome approach to identify regulatory nodes in the transcriptional network of systemic acquired resistance in plants. *PLosPathogen.* **2**:1042-1050.

Wang L, Tsuda K, Sato M, Cohen JD, Katagiri F, Glazebrook J. 2009. *Arabidopsis* CaM binding protein CBP60g contributes to MAMP-induced SA accumulation and is involved in disease resistance against *Pseudomonas syringae*. *PLos Pathogen* **5**:e1000301.

Wang Z-Y, Kenigsbuch D, Sun L, Harel E, Ong MS, Tobin EM. 1997. A myb-related transcription factor is involved in the phytochrome regulation of an *Arabidopsis Lhcb* gene. *Plant cell* **9**:491-507.

Wilmink A, Dons JJM. **1993**. Selection agents and marker genes for use in transformation of monocotyledonous plants. *Plant Mol. Biol. Rep*. **11**:165-185.

Xiang C, Han P, Oliver DJ. 1999. *In solium* selection for *Arabidopsi*s transformants resistant to kanamycin. *Plant Mol. Biol. Rep*. **17**:59-65.

Xiang C, Miao Z, Lam E. 1997. DNA-binding properties, genomic organization and expression pattern of TGA6 a new member of the TGA family of bZIP transcription factors in *Arabidopsis thaliana*. *Plant Mol. Biol*. **34**:403-415.

Xie Z, Zhang ZL, Zou X, Huang J, Ruas P, Thompson D, Shen QJ. 2005. Annotations and functional analyses of the rice *WRKY* gene super family reveal positive and negative regulators of abscisic acid signaling in aleurone cells. *Plant Physiol*. **137**:176-189.

Xu X, Chen C, Fan B, Chen Z. 2006. Physical and functional interactions between the pathogen-induced *Arabidopsis* WRKY40 and WRKY60 transcription factors. *Plant Cell* **18**:1310-1326.

Xue GP. 2002. Characterization of the DNA-binding profile of barley *HvCBF1* using an enzymatic method for rapid, quantitative and high-throughput analysis of the DNA-binding activity. *Nucl. Acids Res.* **30**: e77.

Xue GP. 2003. The DNA-binding activity of an AP2 transcriptional activator *HvCBF2* involved in regulation of low-temperature responsive genes in barley is modulated by temperature. *Plant J*. **33**:373-383.

Yamamoto S, Nakano T, Suzuki K, Shinshi H. 2004. Elicitor-induced activation of transcription via W box-related *cis*-acting elements from a basic chitinase gene by WRKY transcription factors in tobacco. *Biochim. Biophys. Acta* **1679**:279-287.

Yang T, Poovaiah BW. 2002. A calmodulin-binding/GCGC box DNA-binding protein family involved in multiple signaling pathways in plants. *J. Biol. Chem*. **277**:45049-2002.

Yoshida S, Tamaoki M, Ioki M, Ogawa D, Sato Y, Aono M, Kubo A, Saji S, Saji H, Satoh S, Nakajima N. 2009. Ethylene and salicylic acid control glutathione biosynthesis in ozone-exposed *Arabidopsis thaliana*. *Physiol. Plant.* **136**:284-294.

Yu D, Chen C, Chen Z. 2001. Evidence for an important role of *WRKY* DNA binding proteins in the regulation of *NPR1* gene expression. *Plant Cell* **13**:1527-1439.

Yuan Y, Zhong S, Li Q, Zhu Z, Lou Y, Wang L, Wang J, Wang M, Li D, Yang D, He Z. 2007. Functional analysis of rice *NPR1*-like genes reveals that *OsNPR1/NH1* is the rice orthologue conferring disease resistance with enhanced herbivore susceptibility. *Plant Biotech. J*. **5**:313-324.

Zhang H, Huang Z, Xie B, Chen Q, Tian X, Zhang X, Zhang H, Lu X, Huang D, Huang R. 2004. The ethylene-, jasmonate-, abscisic acid- and NaCl-responsive tomato transcription factor *JERF1* modulates expression of GCC box-containing genes and salt tolerance in tobacco. *Planta* **220**:262-270.

Zhang J, Zhou J-M. 2010. Plant immunity triggered by microbial molecular signatures. *Mol. Plant* **3**:783-793.

Zhang X, Francis MI, Dawson WO, Graham JH, Orbović V, Triplett EW, Mou Z. 2010. Over-expression of the *Arabidopsis NPR1* gene in citrus increases resistance to citrus canker. *European J. Plant Pathol*. 128:91-100.

Zhang Y, Tessaro MJ, Lassner M, Li X. 2003. Knockout analysis of *Arabidopsis* transcription factors TGA2, TGA5 and TGA6 reveals their redundant and essential roles in systemic acquired resistance. *Plant Cell* **15**:2647-2653.

Zhao J-T, Huang X, Chen Y-P. 2009. Molecular cloning and characterization of an ortholog of *NPR1* gene from Dongguan Dajiao (*Musa* spp. ABB). *Plant Mol. Biol. Rep*. 27:243-249.

Zhou DX. 1999 Regulatory mechanism of plant gene transcription by GT-elements and GT-factors. *Trends Plant Sci*. **4**:210-214.

Zhou JM, Trifa Y, Silva H, Pontier D, Lam E, Shah J, Klessig DF. 2000. NPR1 differentially interacts with members of the TGA/OBF family of transcription factors that bind an element of the *PR-1* gene required for induction by salicylic acid. *Mol. Plant-Microbe Interact*. **13**:191-202.