

PUBLICATIONS

PEER REVIEWED PUBLICATIONS

- Poustka, F., Irani, N.G., Feller, A., Lu, Y., Pourcel, L., Frame, K., Grotewold, E. (2007) A trafficking pathway for anthocyanins overlaps with the endoplasmic reticulum-to-vacuole protein sorting route in *Arabidopsis* and contributes to the formation of vacuolar inclusions. *Plant Physiol.* **145**: 1323-1335
- Hernandez, J.M., Feller, A., Morohashi, K., Frame, K. and Grotewold, E. (2007) The bHLH domain of maize R links transcriptional regulation and histone modifications by recruitment of an EMSY-related factor. *Proc. Natl. Acad. Sci. USA.* **104**: 17222-17227.
- Morohashi, K., Zhao, M., Yang, M., Read, B., Lloyd, A., Lamb, R., and Grotewold, E. (2007) Participation of the *Arabidopsis* bHLH factor GL3 in trichome initiation regulatory events. *Plant Physiol.* **145**: 736-746.
- Nicholas, C., Batra, S., Vargo, M.A., Voss, O.H., Gavrilin, M., Wewers, M.D., Guttridge, D.C., Grotewold, E., and Doseff, A.I. (2007) Apigenin blocks lipopolysaccharide-induced lethality *in vivo* and pro-inflammatory cytokines expression by inactivating NF- κ B through the suppression of p65 phosphorylation. *J. Immunol.* **179**: 7121-7127.
- Heine, G.F., Malik, V., Dias, A.P., and Grotewold, E. (2007) Expression and molecular characterization of ZmMYB-IF35 and related R2R3-MYB transcription factors. *Mol. Biotech.* **37**: 155-164.
- Serpa, V., Vernal, J., Lamattina, L., Grotewold, E., Cassia, R., Terenzi, H. (2007) Inhibition of AtMYB2 DNA-binding by nitric oxide involves cysteine S-nitrosylation. *Biochem. Biophys Res. Comm.* **361**: 1048-1053.
- Cheng, L., Xu, Y., Grotewold, E., Jin, Z., Wu, F., Fu, C., and Zhao, D. (2007) Characterization of anthocyanidin synthase (ANS) gene and anthocyanidin in rare medicinal plant - *Saussurea medusa*. *Plant Cell. Tiss. Organ Cult.* **89**: 63-73.
- Feller, A., Hernandez, J.M., and Grotewold, E. (2006) An ACT domain participates in the dimerization of several plant bHLH transcription factors. *J. Biol. Chem.* **281**: 28964 – 28974.
- Vargo, M.A., Voss, O.H., Poustka, F., Cardounel, A.J., Grotewold, E., and Doseff, A.I. (2006) Apigenin-induced-apoptosis is mediated by the activation of PKC δ and caspases in leukemia cells. *Biochem. Pharmacol.* **72**: 681-692.
- Palaniswamy, K., James, S., Sun, H., Lamb, R., Davuluri, R.V. and Grotewold, E. (2006) AGRIS and AtRegNet: A platform to link *cis*-regulatory elements and transcription factors into regulatory networks. *Plant Physiol.* **140**: 818-829.
- Lu, Y., Irani, N.G., and Grotewold, E. (2005) Covalent attachment of the plant natural product naringenin to small glass and ceramic beads. *BMC Chemical Biology* **5**: 3.
- Jin, Z., Grotewold, E., Qu, W., Fu, G., and Zhao, D. (2005) Cloning and characterization of a flavanone 3-hydroxylase gene from *Saussurea medusa*. *DNA Sequence* **16**: 121-129.
- Irani, N.G., and Grotewold, E. (2005) Light-induced morphological alteration in anthocyanin-accumulating vacuoles of maize cells. *BMC Plant Biology* **5**: 7.
- Molina, C., and Grotewold, E. (2005) Genome-wide analysis of *Arabidopsis* core promoters. *BMC Genomics* **6**: 25.
- Barg, R., Sobolev, I., Eilon, T., Gur, A., Chmelnitsky, I., Shabtai, S., Grotewold, E. and Salts, Y. (2005) The tomato early fruit specific gene *Lefsm1* defines a novel class of plant-specific SANT/MYB domain proteins. *Planta* **221**: 197-211.
- Grotewold, E. (2005) Plant metabolic diversity: A regulatory perspective. *Trends Plant Sci.* **10**: 57-62.
- Hernandez, J., Heine, G., Irani, N.G., Feller, A., Kim, M.-G., Matulnik, T., Chandler, V.L., and Grotewold, E. (2004) Different mechanisms participate in the R-dependent activity of the R2R3 MYB transcription factor C1. *J. Biol. Chem.* **279**: 48205-48213.

- Heine, G.F., Hernandez, J.M., and Grotewold, E. (2004) Two cysteines in plant R2R3 MYB domains participate in REDOX-dependent DNA binding. *J. Biol. Chem.* **279**: 37878-37885.
- Rangarajan, S., Raj, M.L.S., Hernandez, J.M., Grotewold, E., Gopalan, V. (2004) RnaseP as a tool for disrupting gene expression in maize cells. *Biochem. J.* **380**: 611-616.
- Henry, I.M., Wilkinson, M.D., Hernandez, J.M., Schwarz-Sommer, Z., Grotewold, E., and Mandoli, D.F. (2004) Comparison of ESTs from juvenile and adult phases of the giant unicellular green alga *Acetabularia acetabulum*. *BMC Plant Biology* **4**: 3.
- Lin, Y., Irani, N.G., and Grotewold, E. (2003) Sub-cellular trafficking of phytochemicals explored using auto-fluorescent compounds in maize cells. *BMC Plant Biology* **3**: 10.
- Davuluri, R.V., Sun, H., Palaniswamy, S.K., Matthews, N., Molina, C., Kurtz, M., and Grotewold, E. (2003) AGRIS: Arabidopsis Gene Regulatory Information Server, an information resource of *Arabidopsis* cis-regulatory elements and transcription factors. *BMC Bioinformatics* **4**: 25 – 35.
- Dias, A.P., Braun, E.L., McMullen, M.D., and Grotewold, E. (2003) Recently duplicated maize *R2R3 Myb* genes provide evidence for distinct mechanisms of evolutionary divergence after duplication. *Plant Physiol.* **131**: 610-620.
- Dias, A.P., and Grotewold, E. (2003) Manipulating the accumulation of phenolics in maize cultured cells using transcription factors. *Biochem. Engineering J.* **14**: 207-216.
- Pooma, W., Gersos, C., and Grotewold, E. (2002) Transposon insertions in the promoter of the *Zea mays a1* gene differentially affect transcription by the Myb factors P and C1. *Genetics* **161**: 793-801.
- Dong, X., Braun, E.L., and Grotewold, E. (2001) Functional conservation of plant secondary metabolic enzymes revealed by complementation of *Arabidopsis* flavonoid mutants with maize genes. *Plant Physiol.* **127**: 46-57.
- Braun, E.L., and Grotewold, E. (2001) Fungal Zootin proteins evolved from MIDA1-like factors by lineage-specific loss of MYB domains. *Mol. Biol. & Evol.* **18**: 1401-1412.
- Grotewold, E., Sainz, M.B., Tagliani, L., Hernandez, J.M., Bowen, B., and Chandler, V.L. (2000) Identification of the residues in the Myb domain of C1 that provide the specificity of the interaction with the bHLH cofactor R. *Proc. Natl. Acad. Sci. USA* **97**: 13579-13584.
- Rabinowicz, P.D., and Grotewold, E. (2000) A novel reverse-genetic approach (SIMF) identifies *Mutator* insertions in new *Myb* genes. *Planta* **211**: 887-893.
- Braun, E.L., and Grotewold, E. (1999) Newly discovered plant *c-myb*-like genes rewrite the evolution of the plant *myb* gene family. *Plant Physiol.* **121**: 21-24.
- Rabinowicz, P. D., E. L. Braun., A. D. Wolfe, B. Bowen, and E. Grotewold. (1999) Maize *R2R3 Myb* genes: Sequence analysis reveals amplification in higher plants. *Genetics* **153**: 427-444.
- Grotewold, E., Chamberlain, M., St. Claire, G., Swenson, J., Siame, B.A., Butler, L.G., Snook, M. and Bowen, B. (1998) Engineering secondary metabolism in maize cells by ectopic expression of transcription factors. *Plant Cell* **10**: 721-740. (Featured in This Issue commentary)
- van Aalten, D.M.F., Grotewold, E. and Joshua-Tor, L. (1998) Essential dynamics from NMR structures: dynamic properties of the Myb DNA-binding domain and a hinge-bending enhancing variant. *Methods - A companion to Methods in Enzymology.* **14**: 318-328.
- Sainz, M., Grotewold, E. and Chandler, V. (1997) Evidence for direct activation of an anthocyanin promoter by the maize C1 protein and comparison of DNA-binding by related Myb-domain proteins. *Plant Cell.* **9**: 611-625.
- Williams, C.E. and Grotewold, E. (1997) Differences between plant and animal Myb domains are fundamental for DNA-binding activity and chimeric Myb domains have novel DNA-binding specificities. *J. Biol. Chem.* **272**: 563-571.

- Rabinowicz, P.D., Roberts, C., and Grotewold, E. (1996). A gene encoding a putative Mixta-homologous Myb-domain protein from *Arabidopsis thaliana*. *Plant Physiol.* **112**: 863.
- Grotewold, E., Drummond, B., Bowen, B. and Peterson, T. (1994). The Myb-homologous *P* gene controls phlobaphene pigmentation in maize floral organs by directly activating a flavonoid biosynthetic gene subset. *Cell* **76**: 543-553.
- Grotewold, E. and Peterson, T. (1994). Isolation and characterization of a maize gene encoding chalcone flavanone isomerase. *Mol. Gen. Genet.* **242**: 1-8.
- Athma, P., Grotewold, E. and Peterson, T. (1992). Insertional mutagenesis of the maize *P* gene by intragenic transposition of *Ac*. *Genetics* **131**: 199-209.
- Grotewold, E., Athma, P. and Peterson, T. (1991). A possible hot spot for *Ac* insertion in the maize *P* gene. *Mol. Gen. Genet.* **230**: 329-331.
- Grotewold, E., Athma, P. and Peterson, T. (1991). Alternatively spliced products of the maize *P* gene encode proteins with homology to the DNA-binding domain of Myb-like transcription factors. *Proc. Natl. Acad. Science* **88**: 4587-4591.
- Taccioli, G.E., Grotewold, E., Aisemberg, G.O. and Judewicz, N.D. (1991). The cDNA sequence and expression of an ubiquitin-tail gene fusion in *Neurospora crassa*. *Gene* **102**: 133-137.
- Grotewold, E., Aisemberg, G.O., Taccioli, G.E. and Judewicz, N.D. (1990). Genes responsive to the alteration of polyamine biosynthesis in *Neurospora crassa*. *Cell Biology International Reports* **14**: 69-77.
- Grotewold, E., Taccioli, G.E., Aisemberg, G.O. and Judewicz, N.D. (1989). Early response and induced tolerance to cycloheximide in *Neurospora crassa*. *Current Genetics* **15**: 429-434.
- Aisemberg, G.O., Grotewold, E., Taccioli, G.E. and Judewicz, N.D. (1989). A major transcript in the response of *Neurospora crassa* to protein synthesis inhibition by cycloheximide. *Experimental Mycol.* **13**: 121-128.
- Attar, R.M., Grotewold, E., Taccioli, G.E., Aisemberg, G.O., Torres, H.N. and Judewicz, N.D. (1989). A cycloheximide inducible gene of *Neurospora crassa* belongs to the cytochrome P-450 superfamily. *Nucl. Acid Res.* **17**: 7535-7536.
- Taccioli, G.E., Grotewold, E., Aisemberg, G.O. and Judewicz, N.D. (1989). Ubiquitin expression in *Neurospora crassa*: cloning and sequencing of a polyubiquitin gene. *Nucl. Acid Res.* **17**: 6153-6164.
- Grotewold, E., Taccioli, G.E., Aisemberg, G.O. and Judewicz, N.D. (1988). A single-step purification of an exocellular fungal laccase. *MIRCEN Journal of Applied Microbiology and Biotechnology* **4**: 357-363.
- Aisemberg, G.O., Taccioli, G.E., Grotewold, E. and Judewicz, N.D. (1987). Differential gene expression promoted by cycloheximide in *Neurospora crassa*. *Experimental Mycol.* **11**: 122-127.

REVIEWS (PEER REVIEWED)

- Grotewold, E. Transcription factors for predictive plant metabolic engineering: Are we there yet? Submitted to *Curr. Opin. Biotech.*
- Grotewold, E. (2006) The genetics and biochemistry of flower pigments. *Ann. Rev. Plant Biol.* **57**: 761-780.
- Taylor, L. P., and Grotewold, E. (2005) Flavonoids as developmental regulators *Curr. Opin. Plant Biol.* **8**: 317-323.
- Grotewold, E. (2004) The challenges of moving chemicals within and out of cells: Insights into the transport of plant natural products. *Planta.* **219**: 906-909.
- Walker, T.S., Bais, H.P., Grotewold, E. and Vivanco, J.M. (2003) Root exudation and rhizosphere biology. *Plant Physiol.* **132**: 44-51.

Mol, J., Grotewold, E., and Koes, R. (1998) How genes paint flowers and seeds. *Trends Plant Sci.* **3**: 212-217.

INVITED PUBLICATIONS, BOOK CHAPTERS AND REVIEWS

Grotewold, E. and Gray, J. (2008) Maize transcription factors. In *The Maize Handbook*. Hake, S. and Bennetzen, J. (ed). Springer, New York, NY. *Submitted*.

Morohashi, K., Xie, Z., and Grotewold, E. (2008) Gene-specific and genome-wide ChIP approaches to study plant transcriptional networks. In *Plant Systems Biology*. Belostotsky, D. (ed) Humana Press, NJ. *In Press*.

Grotewold, E. and Springer, N. (2008) Decoding the transcriptional hardwiring of the plant genome. In *Systems Biology*. Coruzzi, G. and Gutierrez, R. (eds). Blackwell Publishing. *In Press*.

Quattrocchio, F., Baudry, A., Lepiniec, L., and Grotewold, E. (2006) The regulation of flavonoid biosynthesis. In *The Science of Flavonoids*. Grotewold, E. (ed.) Springer, New York, NY. pp. 97-122.

Wurtzel, E.T., and Grotewold, E. (2006) Plant Metabolic Engineering. In *Encyclopedia of Chemical Processing*. Taylor & Francis, pp. 2191-2200

Onyilagha, J., and Grotewold, E. (2004) The biology and structural distribution of surface flavonoids. *Recent Res. Devel. Plant Sci.* **2**: 53-71

Pooma, W., and Grotewold, E. (2003) Transposons and the regulation of plant gene expression. *Adv. Plant Physiol.* **6**: 37-58.

Dias, A., Brown, J., Bonello, P., and Grotewold, E. (2003) Metabolite profiling as a functional genomics tool. In *Plant Functional Genomics: Methods & Protocols*. Grotewold, E. (ed) Humana Press, NJ. pp. 415-426.

Irani, N., Hernandez, J.M., and Grotewold, E. (2003) Regulation of anthocyanin pigmentation. *Recent Adv. Phytochem.* **37**: 59-78.

Grotewold, E. Subcellular trafficking of phytochemicals. (2001) *Recent Res. Dev. Plant Physiol.* **2**: 31-48.

Braun, E.L., Matulnik, T., Dias, A., and Grotewold, E. (2001) Transcription factors and metabolic engineering: Novel applications for ancient tools. *Recent. Adv. Phytochem.* **35**: 79-109.

BOOKS EDITED

Grotewold, E. (Editor) *The Science of Flavonoids*. (2006) Springer, New York, NY.

Grotewold, E. (Editor) *Plant Functional Genomics: Methods & Protocols*. (2003) Humana Press, Totowa, NJ.