

Publications N. Amrhein

1. N. Amrhein, M.H. Zenk: Induction of cinnamic acid 4-hydroxylase by light and wounding. *Naturwissenschaften* 55, 394 (1968).
2. N. Amrhein, M.H. Zenk: Das Auftreten des "NIH-Shifts" bei der *in vivo* und *in vitro* Bildung hydroxylierter Zimtsäurederivate in Buchweizenhypokotylen (*Fagopyrum esculentum* Moench). *Phytochemistry* 8, 107-113 (1969).
3. N. Amrhein, M.H. Zenk: Concomitant induction of phenylalanine ammonia-lyase and cinnamic acid 4-hydroxylase during illumination of excised buckwheat hypocotyls. *Naturwissenschaften* 57, 312 (1970).
4. N. Amrhein, M.H. Zenk: Aktivität der Phenylalanin-Ammonium-Lyase (PAL) und Akkumulation von phenylpropanoiden Verbindungen während der Keimung von Buchweizen (*Fagopyrum esculentum* Moench) im Dunkeln. *Z. Pflanzenphysiol.* 63, 384-388 (1970).
5. N. Amrhein, M.H. Zenk: Untersuchungen zur Rolle der Phenylalanin-Ammonium-Lyase (PAL) bei der Regulation der Flavonoidsynthese im Buchweizen (*Fagopyrum esculentum* Moench). *Z. Pflanzenphysiol.* 64, 145-168 (1971).
6. B.E. Ellis, N. Amrhein: The "NIH-Shift" during aromatic ortho-hydroxylation in higher plants. *Phytochemistry* 10, 3069-3072 (1971).
7. N. Amrhein, P. Filner: Adenosine 3':5'-cyclic monophosphate in *Chlamydomonas reinhardtii*: Isolation and characterization. *Proc. Nat. Acad. Sci. USA* 70, 1099-1103 (1973).
8. N. Amrhein, P. Filner: Sensitization of colchicine binding protein to ultraviolet light by bound colchicine. *FEBS Letters* 33, 139-142 (1973).
9. U. Fischer, N. Amrhein: Cyclic nucleotide phosphodiesterase of *Chlamydomonas reinhardtii*. *Biochim. Biophys. Acta* 341, 412-420 (1974).
10. N. Amrhein: Evidence against the occurrence of adenosine-3'-5'-cyclic monophosphate in higher plants. *Planta* 118, 241-258 (1974).
11. N. Amrhein: Cyclic nucleotide phosphodiesterase in plants. *Z. Pflanzenphysiol.* 72, 249-261 (1974).
12. G. Hartfield, N. Amrhein: The action of methylxanthines on motility and growth of *Chlamydomonas reinhardtii* and other flagellated algae. Is cyclic AMP involved? *Biochem. Physiol. Pflanzen* 169, 531-556 (1976).
13. G.K. Andreev, N. Amrhein: Mechanism of action of the herbicide 2-chloro-3-(4-chlorophenyl)propionate and its methyl ester: Interaction with cell responses mediated by auxin. *Physiol. Plant.* 37, 175-182 (1976).
14. N. Amrhein, K.H. Gödeke, J. Gerhardt: The estimation of phenylalanine ammonia-lyase (PAL)-activity in intact cells of higher plant tissue. I. Parameters of the assay. *Planta* 131, 33-40 (1976).

15. N. Amrhein, K.H. Gödeke: The estimation of phenylalanine ammonia-lyase (PAL)-activity in intact cells of higher plant tissue. II. Correlations and discrepancies between activities measured in intact cells and cell-free extracts. *Planta* 131, 41-45 (1976).
16. N. Amrhein, K.H. Gödeke, V.I. Kefeli: The estimation of relative intracellular phenylalanine ammonia-lyase (PAL)-activities and the modulation *in vivo* and *in vitro* by competitive inhibitors. *Ber. Deutsch. Bot. Ges.* 89, 247-259 (1976).
17. V.I. Kefeli, N. Amrhein: Nacalnye etapy rosta gipokotilya grecikhi *Fagopyrum esculentum* Moench. (Initial growth phases of buckwheat hypocotyls). *Fiziol. Rast.* 24, 118-125 (1977).
18. N. Amrhein, M.H. Zenk: Metabolism of phenylpropanoid compounds. *Physiol. Veg.* 15, 251-260 (1977).
19. B. Weinhold, N. Amrhein: Activation of rabbit skeletal muscle adenosine-3'-5'-monophosphate-dependent protein kinase by agitation. *Biochem. Biophys. Res. Commun.* 76, 1116-1123 (1977).
20. N. Amrhein: The current status of cyclic AMP in higher plants. *Ann. Rev. Plant Physiol.* 28, 123-132 (1977).
21. N. Amrhein, K.H. Gödeke: α -Aminooxy- β -phenylpropionic acid - a potent inhibitor of L-phenylalanine ammonia-lyase *in vitro* und *in vivo*. *Plant Sci. Lett.* 8, 313-317 (1977).
22. B. Ulrich, N. Amrhein: Induction by light of hydroxycinnamoyl-CoA: quinate hydroxycinnamoyl transferase in buckwheat (*Fagopyrum esculentum* Moench): Absence of feed-forward control by *trans*-cinnamate. *Planta* 138, 69-71 (1978).
23. N. Amrhein: Cyclic AMP in higher plants? In: *Plant Growth Primary Mechanisms*. (Hrsg. V.I. Kefeli), Verlag Nauka, Moskau, 1978, pp. 57-59 (in Russian).
24. N. Amrhein: Novel inhibitors of phenylpropanoid metabolism in higher plants. Proc. 12th FEBS-Meeting, Dresden, GDR (1978). S. Rapaport, ed., Oxford: Pergamon, Vol. 55, M. Luckner, K. Schreiber, Hrsg., 173-182.
25. N. Amrhein, H. Holländer: Inhibition of anthocyanin formation in seedlings and flowers by the enantiomers of α -aminooxy- β -phenylpropionic acid and their N-benzyloxycarbonyl derivatives. *Planta* 144, 385-389 (1979).
26. N. Amrhein: Biosynthesis of cyanidin in buckwheat hypocotyls. *Phytochemistry* 18, 585-589 (1979).
27. N. Amrhein, J. Gerhardt: Superinduction of phenylalanine ammonia-lyase in gherkin hypocotyls caused by the inhibitor, L- α -aminooxy- β -phenylpropionic acid. *Biochim. Biophys. Acta* 583, 434-442 (1979).
28. N. Amrhein: Growth. Progress in Botany, *Fortschritte der Botanik*. Vol. 41, 108-134 (1979). (H. Ellenberg, K. Esser, K. Kubitzki, E. Schnepf, H. Ziegler, eds.), Springer-Verlag, Berlin, Heidelberg, New York, 1979.
29. N. Amrhein, G. Deckers, U. Fingerhut: Inhibition of gibberellic acid induced formation and release of a-amylase and acid phosphatase in barley aleurone layers by cerulenin. *Biochem. Physiol. Pflanzen* 174, 727-737 (1979).

30. H. Holländer, H.-H. Kiltz, N. Amrhein: Interference of L- α -amino-oxy- β -phenylpropionic acid with phenylalanine metabolism in buckwheat. *Z. Naturforsch.* 34c, 1162-1173 (1979).
31. N. Amrhein, W. Diederich: Turnover of isoflavones in *Cicer arietinum* L. *Naturwissenschaften* 67, 40 (1980).
32. N. Amrhein, D. Wenker: Novel inhibitors of ethylene production in higher plants. *Plant and Cell Physiol.* 20, 1635-1642 (1979).
33. N. Amrhein, D. Schneebeck: Prevention of auxin-induced epinasty by α -aminoxyacetic acid. *Physiol. Plant.* 49, 62-64 (1980).
34. H. Holländer, N. Amrhein: The site of the inhibition of the shikimate pathway by glyphosate. I. Inhibition by glyphosate of phenylpropanoid synthesis in buckwheat (*Fagopyrum esculentum* Moench). *Plant Physiol.* 66, 823-829 (1980).
35. N. Amrhein, B. Deus, P. Gehrke, H.C. Steinrücken: The site of the inhibition of the shikimate pathway by glyphosate. II: Interference of glyphosate with chorismate formation *in vivo* and *in vitro*. *Plant Physiol.* 66, 830-834 (1980).
36. H.C. Steinrücken, N. Amrhein: The herbicide glyphosate is a potent inhibitor of 5-enolpyruvylshikimic acid-3-phosphate synthase. *Biochem. Biophys. Res. Commun.* 94, 1207-1212 (1980).
37. N. Amrhein, J. Schab, H.C. Steinrücken: The mode of action of the herbicide glyphosate. *Naturwissenschaft* 67, 356 (1981).
38. N. Amrhein, H. Holländer: Light promotes the production of shikimic acid in buckwheat. *Naturwissenschaft* 68, 43 (1981).
39. H. Holländer, N. Amrhein: The estimation of phenylalanine ammonia-lyase (PAL) activity in intact cells of higher plant tissue. III. Specificity of ^3H -release from L-[2,3- ^3H]phenylalanine and precautions in application of the assay in various tissues. *Planta* 152, 374-378 (1981).
40. N. Amrhein, B. Deus, P. Gehrke, H. Holländer, J. Schab, A. Schulz, H.C. Steinrücken: Interference of glyphosate with the shikimate pathway. *Proc. Plant Growth Regulator Society of America* 8, 99-106 (1981).
41. N. Amrhein: Growth. Progress in Botany, Fortschritte der Botanik. Vol. 43, 100-118 (1981). (H. Ellenberg, K. Esser, K. Kubitzki, S. Schnepf, H. Ziegler, eds.). Springer-Verlag, Berlin, Heidelberg, New York, 1981.
42. N. Amrhein, D. Schneebeck, H. Skorupka, S. Tophof: Identification of a major metabolite of the ethylene precursor 1-aminocyclopropane-1-carboxylic acid in higher plants. *Naturwissenschaft* 67, 619 (1981).
43. N. Amrhein, F. Breuing, J. Eberle, H. Skorupka, S. Tophof: The metabolism of 1-aminocyclopropane-1-carboxylic acid. In: P.F. Wareing, ed.: *Plant Growth Substances*; Aberystwyth, July 12-16, 1982, Academic Press, London, 1982.
44. N. Amrhein, H. Holländer-Czytko, J. Leifeld, A. Schulz, H.-C. Steinrücken, H. Topp: Inhibition of the shikimate pathway by glyphosate. In: A.M. Boudet, R. Ranjeva, eds.: *Journées Internationales d'Etudes et de l'Assemblée Générale 1982. Bulletin de Liaison*. Vol. 11, Groupe Polyphenols. Toulouse, pp. 21-30.

45. H. Holländer-Czytko, N. Amrhein: Subcellular compartmentation of shikimic acid and phenylalanine in buckwheat cell suspension cultures grown in the presence of shikimate pathway inhibitors. *Plant Sci. Lett.* 29, 89-96 (1983).
46. N. Amrhein, G. Frank, G. Lemm, H.B. Luhmann: Inhibition of lignin formation by L- α -aminoxy- β -phenylpropionic acid, an inhibitor of phenylalanine ammonia-lyase. *Eur. J. Cell Biol.* 29, 139-144 (1983).
47. N. Amrhein, D. Johänning, J. Schab, A. Schulz: Biochemical basis for glyphosate-tolerance in a bacterium and a plant tissue culture. *FEBS Lett.* 157, 191-196 (1983).
48. N. Amrhein: Growth. *Progress in Botany, Fortschritte der Botanik.* Vol. 43, 136-165 (1983). (K. Esser, K. Kubitzki, M. Runge, E. Schnepf, H. Ziegler, eds.). Springer-Verlag, Berlin, Heidelberg, New York, Tokyo, 1983.
49. N. Amrhein: Metabolisierung und Konjugation als Faktor einer Hormonhomöostase. In: *Hohenheimer Arbeiten, Reihe Pflanzliche Produktion*, Hrsg. H. Alleweldt. Heft 129. Regulation des Phytohormongehaltes und seine Beeinflussung durch synthetische Wachstumsregulatoren. Hrsg. F. Bangerth. Verlag Eugen Ulmer, Stuttgart 1983. pp. 45-63.
50. A. Schulz, D. Sost, N. Amrhein: Insensitivity of 5-enol-pyruvylshikimic acid-3-phosphate synthase to glyphosate confers resistance to this herbicide in a strain of *Aerobacter aerogenes*. *Arch. Microbiol.* 137, 121-123 (1984).
51. N. Amrhein, U. Dorzok, C. Kionka, U. Kondziolka, H. Skorupka, S. Tophof: The biochemistry and physiology of 1-aminocyclopropane-1-carboxylic acid conjugation. In: *Biochemical, Physiological and Applied Aspects of Ethylene*. (Y. Fuchs, E. Chalutz, eds.). Nijhoff/Dr. W. Junk Publ. The Hague, 1984, pp. 11-20.
52. C.C. Smart, N. Amrhein: The influence of lignification on the development of vascular tissue in *Vigna radiata* L. *Protoplasma* 124, 87-95 (1985).
53. C. Kionka, N. Amrhein: The enzymatic malonylation of 1-aminocyclopropane-1-carboxylic acid in homogenates of mung-bean hypocotyls. *Planta* 162, 226-235 (1984).
54. H.C. Steinrücken, N. Amrhein: 5-Enolpyruvylshikimate-3-phosphate synthase of *Klebsiella pneumoniae*. 1. Purification and properties. *Eur. J. Biochem.* 143, 341-349 (1984).
55. H.C. Steinrücken, N. Amrhein: 5-Enolpyruvylshikimate-3-phosphate synthase of *Klebsiella pneumoniae*. 2. Inhibition by glyphosate [N-(phosphonomethyl)glycine]. *Eur. J. Biochem.* 143, 351-357 (1984).
56. D. Sost, A. Schulz, N. Amrhein: Characterization of a glyphosate-insensitive 5-enolpyruvylshikimic acid-3-phosphate synthase. *FEBS Lett.* 173, 238-242 (1984).
57. N. Amrhein, D. Johänning, C.C. Smart: A glyphosate-tolerant plant tissue culture. In: *Primary and secondary metabolism of plant cell culture*. (Neumann et al., eds.) Springer-Verlag, Berlin, Heidelberg, 1985, pp. 356-361.
58. H.C. Steinrücken, A. Schulz, N. Amrhein, C.A. Porter, R.T. Fraley: Overproduction of 5-enolpyruvylshikimate-3-phosphate synthase in a glyphosate-tolerant *Petunia hybrida* cell line. *Arch. Biochem. Biophys.* 244, 169-178 (1986).

59. A. Schulz, A. Krüper, N. Amrhein: Differential sensitivity of bacterial 5-enolpyruvylshikimate-3-phosphate synthase to the herbicide glyphosate. *FEMS Microbiol. Lett.* 28, 297-301 (1985).
60. C.C. Smart, D. Johänning, G. Müller, N. Amrhein: Selective over-production of 5-enolpyruvylshikimic acid-3-phosphate synthase in a plant cell culture which tolerates high doses of the herbicide glyphosate. *J. Biol. Chem.* 260, 16338-16346 (1985).
61. B. Laber, H.H. Kiltz, N. Amrhein: Inhibition of phenylalanine ammonia-lyase *in vitro* and *in vivo* by (1-amino-2-phenylethyl)phosphonic acid, the phosphonic analogue of phenylalanine. *Z. Naturforsch.* 41c, 49-55 (1986).
62. N. Amrhein: Specific inhibitors as probes into the biosynthesis and metabolism of aromatic amino acids. *In:* "The Shikimic Acid Pathway". (E.E. Conn, ed.), Rec. Adv. Phytochem. Vol. 20, p. 83-117, Plenum Press, New York and London, 1986.
63. N. Amrhein, H. Holländer-Czytko, D. Johänning, A. Schulz, C.C. Smart, H.C. Steinrücken: Overproduction of 5-enolpyruvylshikimate 3-phosphate synthase in glyphosate-tolerant plant cell cultures. *In:* "Plant Tissue and Cell Culture" (C.E. Green, D.A. Somers, W.P. Hackett and D.D. Biesboer, eds.). Plant Biology Vol. 3, p. 119-133, Alan R. Liss, Inc., New York, 1987.
64. C.C. Smart, N. Amrhein: Ultrastructural localisation by protein A-gold immunocytochemistry of 5-enolpyruvylshikimic acid 3-phosphate synthase in a plant cell culture which overproduces the enzyme. *Planta* 170, 1-6 (1987).
65. H. Holländer-Czytko, N. Amrhein: 5-Enolpyruvylshikimate 3-phosphate synthase, the target enzyme of the herbicide glyphosate, is synthesized *in vitro* as a precursor in a higher plant. *Plant. Physiol.* 83, 229-231 (1987).
66. R. Pipke, N. Amrhein, G.S. Jacob, J. Schaefer, G.M. Kishore: Metabolism of glyphosate in an *Arthrobacter* sp. GLP-1. *Eur. J. Biochem.* 165, 267-273 (1987).
67. R. Pipke, A. Schulz, N. Amrhein: Uptake of glyphosate by an *Arthrobacter* sp.. *Appl. Environ. Microbiol.* 53, 974-978 (1987).
68. N. Amrhein, C. Forreiter, C. Kionka, H. Skorupka, S. Tophof: Metabolism and its compartmentation of 1-aminocyclopropane-1-carboxylic acid in plant cells. *In:* "Conjugated Plant Hormones, Structure, Metabolism and Function" (K. Schreiber, H.R. Schütte, G. Sembdner, eds.) pp. 102-110. VEB Deutscher Verlag der Wissenschaften, Berlin, 1987.
69. C. Mollenhauer, C.C. Smart, N. Amrhein: Glyphosate toxicity in the shoot apical region of the tomato plant. I. Plastid swelling is the initial ultrastructural feature following *in vivo* inhibition of 5-enolpyruvylshikimic acid 3-phosphate synthase. *Pestic. Biochem. Physiol.* 29, 55-65 (1987).
70. B. Laber, N. Amrhein: Metabolism of 1-aminoethylphosphinate generates acetylphosphinate, a potent inhibitor of pyruvate dehydrogenase. *Biochem. J.* 248, 351-358 (1987).
71. R. Pipke, N. Amrhein: Degradation of the phosphonate herbicide glyphosate by *Arthrobacter atrocyaneus* ATCC 13752. *Appl. Environ. Microbiol.* 54, 1293-1296 (1988).

72. H. Holländer-Czytko, D. Johänning, H.E. Meyer, N. Amrhein: Molecular basis for the overproduction of 5-enolpyruvylshikimate 3-phosphate synthase in a glyphosate tolerant cell suspension culture of *Cordyalis sempervirens*. *Plant Mol. Biol.* 11, 215-220 (1988).
73. R. Pipke, N. Amrhein: Carbon phosphorus lyase activity in permeabilized cells of *Arthrobacter* sp. GLP-1. *FEBS Lett.* 236, 135-138 (1988).
74. R. Pipke, N. Amrhein: Isolation and characterization of a mutant of *Arthrobacter* sp. strain GLP-1 which utilizes the herbicide glyphosate as its sole source of phosphorus and nitrogen. *Appl. Environ. Microbiol.* 54, 2868-2870 (1988).
75. S. Tophof, E. Martinoia, G. Kaiser, W. Hartung, N. Amrhein: Compartmentation and transport of 1-aminocyclopropane-1-carboxylic acid and *N*-malonyl-1-aminocyclopropane-1-carboxylic acid in barley and wheat mesophyll cells and protoplasts. *Physiol. Plant.* 75: 333-339 (1989).
76. N. Amrhein, G. Frank: Anthocyanin formation in the petals of *Hibiscus mutabilis* L. Z. *Naturforsch.* 44c, 357-360 (1989).
77. B. Laber, N. Amrhein: A spectrophotometric assay for meso-diaminopimelate decarboxylase and L- α -amino- β -caprolactam hydrolase. *Analytical Biochem.* 181, 297-301 (1989).
78. B. Laber, N. Amrhein: In vitro reconstitution of the diaminopimelate pathway. In: "Prospects for amino acid biosynthesis inhibitors in crop protection and pharmaceutical chemistry" (L.G. Copping, J. Calziel, A.D. Dodge eds.) pp. 81-83. British Crop Protection Council Monograph No. 42. Farnham, Surrey, 1989.
79. R. Vögeli-Lange, H. Holländer-Czytko, N. Amrhein: Characterization and subcellular compartmentation of acid phosphatases in glyphosate-treated buckwheat cell cultures. *Plant Science* 64, 259-266 (1989).
- *80. E. Martinoia, E. Vogt, N. Amrhein: Transport of malate and chloride into barley mesophyll vacuoles. Different carriers are involved. *FEBS Lett.* 261, 109-111 (1990).
81. E. Schönbrunn-Hanebeck, B. Laber, N. Amrhein: Slow-binding inhibition of the *Escherichia coli* pyruvate dehydrogenase multienzyme complex by acetylphosphinate. *Biochemistry* 29, 4880-4885 (1990).
82. A. Schulz, T. Munder, H. Holländer-Czytko, N. Amrhein: Glyphosate transport and early effects on shikimate metabolism and its compartmentation in sink leaves of tomato and spinach plants. *Z. Naturforsch.* 45c, 529-534 (1990).
83. A. Schaller, V. Windhofer, N. Amrhein: Purification of chorismate synthase from a cell culture of the higher plant *Corydalis sempervirens* Pers. *Arch. Biochem. Biophys.* 282, 437-442 (1990).
84. D. Sost, N. Amrhein: Substitution of Gly-96 to Ala in the 5-enol-pyruvylshikimate-3-phosphate synthase of *Klebsiella pneumoniae* results in greatly reduced affinity for the herbicide glyphosate. *Arch. Biochem. Biophys.* 282, 433-436 (1990).
85. A. Krüper, P. Gehrke, N. Amrhein: Facile and economical preparation of [¹⁴C]-labelled shikimic acid. *J. Labelled Comp. Radiopharm.* 28, 713-718 (1990).

86. B. Keller, D. Nierhaus-Wunderwald, N. Amrhein: Deposition of glycine-rich structural protein in xylem cell walls of French bean seedlings is independent of lignification. *J. Struct. Biol.*, 104, 144-149 (1990).
87. E. Martinoia, E. Vogt, D. Rentsch, N. Amrhein: Functional reconstitution of barley mesophyll vacuoles in liposomes. *Biochim. Biophys. Acta*, 1062, 271-278 (1991).
88. M. Kertesz, A. Elgorriaga, N. Amrhein: Evidence for two distinct phosphonate-degrading enzymes (C-P lyases) in *Arthrobacter* sp. GLP-1. *Biodegradation* 2, 53-59 (1991).
89. A. Schaller, J. Schmid, U. Leibinger, N. Amrhein: Molecular cloning of a cDNA coding for chorismate synthase from the higher plant *Corydalis sempervirens* Pers. *J. Biol. Chem.* 266, 21434-21438 (1991).
90. A. Schaller, M. van Afferden, V. Windhofer, S. Bülow, G. Abel, J. Schmid, N. Amrhein: Purification and characterization of chorismate synthase from *Euglena gracilis*. Comparison with chorismate synthases of plant and microbial origin. *Plant Physiol.* 97, 1271-1279 (1991).
91. J. Schmid, A. Schaller, U. Leibinger, W. Boll, N. Amrhein: The *in vitro* synthesized tomato shikimate kinase precursor is enzymatically active and is imported and processed to the mature enzyme by chloroplasts. *The Plant Journal* 2, 375-383 (1992).
92. St. Hörtensteiner, E. Martinoia, N. Amrhein: Reappearance of hydrolytic activities and tonoplast proteins in the regenerated vacuole of evacuolated protoplasts. *Planta*, 187, 113-121 (1992).
93. C. Wanke, R. Falchetto, N. Amrhein: The UDP-N-acetylglucosamine 1-carboxyvinyltransferase of *Enterobacter cloacae*: Molecular cloning and sequencing of the gene and overexpression of the enzyme. *FEBS-Letters* 301, 271-276 (1992).
94. J. Zoń, N. Amrhein: Inhibitors of phenylalanine ammonia-lyase: 2-aminoindan-2-phosphonic acid and related compounds. *Liebigs Ann. Chemie* 625-628, (1992).
95. A. Schaller, J. Schmid, N. Amrhein: A plant cDNA similar to a bacterial plasmid partition locus. *Plant Physiol.* 99, 777-778 (1992).
96. N. Amrhein, A. Schaller, J. Schmid: Shikimate kinase and chorismate synthase from higher plants. In: "Biosynthesis and Molecular Regulation of Amino Acids in Plants" (H. Flores, J. Shannon and B. Singh eds.). Amer. Soc. Plant Physiol., Beltsville, MD, pp. 19 - 27 (1992).
97. G. Leubner-Metzger, N. Amrhein: Hydroxycinnamoyl-putrescines are not causally involved in the tuberization process in potato plants. *Physiol. Plant.* 86, 495-501 (1992).
98. H. Holländer-Czytko, J. Sommer, N. Amrhein: Glyphosate tolerance of cultured *Corydalis sempervirens* cells is acquired by an increased rate of transcription of 5-enolpyruvylshikimate 3-phosphate synthase as well as by a reduced turnover of the enzyme. *Plant Mol. Biol.* 20, 1029-1036 (1992).
99. S. Gut, J. Schmid, N. Amrhein: Deduced amino acid sequence of a plant cDNA containing a leucine zipper motif. *Plant Physiol.* 100, 1609-1610 (1992).
100. N. Amrhein, Ph. Roy: The buckwheat assay for glyphosate and other inhibitors of aromatic biosynthesis. In: "Target assays for modern herbicides and related phytotoxic

compounds" (P. Böger, G. Sandmann eds.), Lewis Publishers, Boca Raton, FL, 115-121 (1992).

101. N. Amrhein: EPSP synthase: isolation and assay. In: "Target assays for modern herbicides and related phytotoxic compounds" (P. Böger, G. Sandmann eds.), Lewis Publishers, Boca Raton, FL, 109-114 (1992).
102. G. Leubner-Metzger, N. Amrhein: The distribution of hydroxycinnamoyl-putrescines in different organs of *Solanum tuberosum* and other solanaceous species. *Phytochemistry*, 32, 551-556 (1993).
103. A. Schmutz, T. Jenny, N. Amrhein, U. Ryser: Caffeic acid and glycerol are constituents of the suberin layers in green cotton fibres. *Planta* 189, 453-460 (1993).
104. J. Görlach, J. Schmid, N. Amrhein. The 33 kDa protein of the oxygen-evolving complex: A multi-gene family in tomato. *Plant Cell Physiol.* 34, 497-501 (1993).
105. E. Martinoia, E. Grill, R. Tommasini, K. Kreuz, N. Amrhein: ATP-dependent glutathione S-conjugate 'export' pump in the vacuolar membrane of plants. *Nature* 364, 247-249 (1993).
106. S. Hörtенsteiner, E. Vogt, B. Hagenbuch, P.J. Meier, N. Amrhein, E. Martinoia: Direct energization of bile acid transport into plant vacuoles. *J. Biol. Chem.* 268, 18446-18449 (1993).
107. J. Görlach, A. Beck, J.M. Henstrand, A.K. Handa, K.M. Herrmann, J. Schmid, N. Amrhein: Differential expression of tomato (*Lycopersicon esculentum* L.) genes encoding shikimate pathway isoenzymes. I. 3-Deoxy-D-arabino-heptulosonate 7-phosphate synthase. *Plant Mol. Biol.* 23, 697-706 (1993).
108. J. Görlach, J. Schmid, N. Amrhein: Differential expression of tomato (*Lycopersicon esculentum* L.) genes encoding shikimate pathway isoenzymes. II. Chorismate synthase. *Plant Mol. Biol.*, 23, 707-716 (1993).
109. S. Hörtенsteiner, E. Martinoia, N. Amrhein: Factors affecting the reformation of vacuoles in evacuated protoplasts and the expression of the two vacuolar proton pumps. *Planta* 192, 395-403 (1994).
110. C. Wanke, N. Amrhein: Evidence that the reaction of the UDP-N-acetylglucosamine 1-carboxyvinyl transferase proceeds through the O-phosphothioketal of pyruvic acid bound to Cys 115 of the enzyme. *Eur. J. Biochem.* 218, 861-870 (1993).
111. J. Görlach, J. Schmid, N. Amrhein: Abundance of transcripts specific for genes encoding enzymes of the prechorismate pathway in different organs of tomato (*Lycopersicon esculentum* L.) plants. *Planta* 193, 216-223 (1994).
112. N. Amrhein, E. Grill: Pflanzliches Wachstum und seine Regulatoren. *Nova Acta Leopoldina NF* 69, Nr. 285, 199-218 (1993).
113. R. Tommasini, E. Martinoia, E. Grill, K.-J. Dietz, N. Amrhein: Transport of oxidized glutathione into barley vacuoles: evidence for the involvement of the glutathione-S-conjugate ATPase. *Z. Naturforsch.* 48c, 867-871 (1993).
114. J. Eberhard, H.-R. Raesecke, J. Schmid, N. Amrhein: Cloning and expression in yeast of a higher plant chorismate mutase. *FEBS Lett.* 334, Nr 2, 233-236 (1993).

115. C. Appert, E. Logemann, K. Hahlbrock, J. Schmid, N. Amrhein: Structural and catalytic properties of the four phenylalanine ammonia-lyase isoenzymes from parsley (*Petroselinum crispum* Nym.). *Eur. J. Biochem.* 225, 491-499 (1994).
116. C. Gaillard, A. Dufaud, R. Tommasini, K. Kreuz, N. Amrhein, E. Martinoia: A herbicide antidote (safener) induces the activity of both the herbicide detoxifying enzyme and of a vacuolar transporter for the detoxified herbicide. *FEBS Lett.* 352, 219-221 (1994).
117. G. Leubner-Metzger, N. Amrhein: Phenylalanine analogues: Potent inhibitors of phenylalanine ammonia-lyase are weak inhibitors of phenylalanine-tRNA synthetases. *Z. Naturforsch.* 49 c, 781-790 (1994).
118. C. Ramilo, R. J. Appleyard, C. Wanke, F. Krekel, N. Amrhein, J. N. S. Evans: Detection of the covalent intermediate of UDP-N-acetylglucosamine enolpyruvyl transferase by solution-state and time-resolved solid-state NMR spectroscopy. *Biochemistry* 33, 15071-15079 (1994).
119. J. Schmid, N. Amrhein: Molecular organization of the shikimate pathway in higher plants. *Phytochemistry* 39, 737-749 (1995).
120. J. Görlich, H.-R. Raesecke, D. Rentsch, M. Regenass, P. Roy, M. Zala, C. Keel, T. Boller, N. Amrhein, J. Schmid: Temporally distinct accumulation of transcripts encoding enzymes of the prechorismate pathway in elicitor-treated cultured tomato cells. *Proc. Natl. Acad. Sci. USA*, 92, 3166-3170 (1995).
121. N. Amrhein, J. Schmid: Molecular aspects of plant biochemistry. *Current Opinion in Biotechnology*, 6, 159-164 (1995).
122. J. Henstrand, J. Schmid, N. Amrhein: Only the mature form of the plastidic chorismate synthase is enzymatically active. *Plant Physiol.* 108, 1127-1132 (1995).
123. J. Henstrand, N. Amrhein, J. Schmid: Cloning and characterization of a heterologously expressed bifunctional chorismate synthase/flavin reductase from *Neurospora crassa*. *J. Biol. Chem.* 270, 20447-20452 (1995).
124. J. Görlich, H.-R. Raesecke, G. Abel, R. Wehrli, N. Amrhein, J. Schmid: Organ-specific differences in the ratio of alternatively spliced chorismate synthase (*Le CS2*) transcripts in tomato. *Plant J.* 8, 451-456 (1995).
125. J. Grabber, R.D. Hatfield, J. Ralph, J. Zon, N. Amrhein: Ferulate cross-linking in cell walls isolated from maize cell suspensions. *Phytochemistry* 40, 1077-1082 (1995).
126. D. Rentsch, J. Görlich, E. Vogt, N. Amrhein, E. Martinoia: The tonoplast-associated citrate binding protein (CBP) of *Hevea brasiliensis*. *J. Biol. Chem.* 270, 1-7 (1995).
127. Y. Li, F. Krekel, C.A. Ramilo, N. Amrhein, J.N.S. Evans: Time-resolved solid-state REDOR NMR studies of UDP N-acetylglucosamine enolpyruvyltransferase. *FEBS Lett.* 377, 208-212 (1995).
128. S. Torres-Schumann, C. Ringli, D. Heierli, N. Amrhein, B. Keller: In vitro binding of the tomato bZIP transcriptional activator VSF-1 to a regulatory element that controls xylem-specific gene expression. *Plant. J.*, in press (1996).
129. M. Bischoff, J. Rösler, H.-R. Raesecke, J. Görlich, N. Amrhein, J. Schmid: Cloning of a cDNA encoding a 3-dehydroquinate synthase from a higher plant, and analysis of the

- organ-specific and elicitor-induced expression of the corresponding gene. *Plant Mol. Biol.* 31, 69-76 (1996).
130. M. Braun, J. M. Henstrand, J. Görlach, N. Amrhein, J. Schmid: Enzymatic properties of chorismate synthase isozymes of tomato (*Lycopersicon esculentum* Mill.). *Planta* 200, 64-70 (1996)
 131. S. Sack, Z. Dauter, C. Wanke, N. Amrhein: Crystallization and Preliminary X-Ray Diffraction Analysis of UDP-N-acetylglucosamine Enolpyruvyltransferase of *Enterobacter cloacae*. *J. of Struct. Biol.* 117, 73-76 (1996).
 132. E. Schönbrunn, S. Sack, S. Eschenburg, A. Perrakis, F. Krekel, N. Amrhein, E. Mandelkow: Crystal structure of UDP-N-acetylglucosamine enolpyruvyltransferase, the target of the antibiotic fosfomycin. *Structure* 4, 1065-1075 (1996).
 133. J. Eberhard, T.T. Ehrler, P. Epple, G. Felix, H.-R. Raesecke, P. Roy, N. Amrhein, J. Schmid: Cytosolic and plastidic chorismate mutase isoforms from *Arabidopsis thaliana*: Molecular characterization and enzymatic properties. *The Plant J.* 10, 815-821 (1996).
 134. J. Eberhard, M. Bischoff, H.-R. Raesecke, N. Amrhein, J. Schmid: Isolation of a cDNA from tomato coding for an unregulated, cytosolic chorismate mutase. *Plant Mol. Biol.* 31, 917-922 (1996).
 135. J. Henstrand, A. Schaller, M. Braun, N. Amrhein, J. Schmid: *Saccharomyces cerevisiae* chorismate synthase has a flavin reductase activity. *Mol. Microbiol.* 22, 859-866 (1996).
 136. Rösler, J. Schmid, N. Amrhein: Maize phenylalanine ammonia-lyase has tyrosine ammonia-lyase activity. *Plant Physiol.* 113, 175-179 (1997)
 137. M. Bucher, S. Brunner, P. Daram, N. Amrhein: Phosphate acquisition in tomato roots. In Radical Biology: Advances and Perspectives on the Function of Plant Roots (eds. H.E.Flores et al.), American Society of Plant Physiologists. pp. 417-421 (1997)
 138. R. Tommasini, E. Vogt, J. Schmid, M. Fromentau, N. Amrhein, E. Martinoia: Differential expression of genes coding for ABC transporters after treatment of *Arabidopsis thaliana* with xenobiotics. *FEBS Lett.* 411, 206-210 (1997)
 139. E. Schönbrunn, D. Svergun, N. Amrhein, M. Koch: Studies on the conformational changes in the bacterial cell wall biosynthetic enzyme UDP-N-acetylglucosamine enolpyruvyl-transferase (MurA). *Eur. J. Biochem.* 253, 406-412 (1998).
 140. M. Leube, E. Grill, N. Amrhein: ABI1 of *Arabidopsis* is a protein serine/threonine phosphatase highly regulated by the proton and magnesium ion concentration. *FEBS Lett.* 424, 100-104 (1998).
 141. P. Daram, S. Brunner, B. Persson, N. Amrhein, M. Bucher: Functional analysis and cell-specific expression of a phosphate transporter from tomato. *Planta* 206, 225-233 (1998).
 142. P. Macheroux, J. Schmid, N. Amrhein, A. Schaller: A unique reaction in a common pathway: mechanism and function of chorismate synthase in the shikimate pathway. *Planta* 207, 325-334 (1999).
 143. J. Meichtry, N. Amrhein, A. Schaller: Characterization of the subtilase gene family in tomato (*Lycopersicon esculentum* Mill.). *Plant Mol. Biol.* 39, 749-760 (1999).

144. F. Krekel, C. Oecking, N. Amrhein, P. Macheroux: Substrate and inhibitor-induced conformational changes in the structurally related enzymes UDP-N-acetylglucosamine enolpyruvyltransferase (MurA) and 5-enolpyruvylshikimate 3-phosphate synthase (EPSPS). *Biochemistry*, 38, 8864-8878 (1999)
145. J. Schmid, N. Amrhein: The shikimate pathway. In: *Plant Amino Acids; Biochemistry and Biotechnology* (ed. B.K. Singh). Marcel Dekker, New York 1999. pp. 147-169
146. A.K. Samland, N. Amrhein, P. Macheroux: Lysine 22 in UDP-N-acetylglucosamine enolpyruvyl transferase from *Enterobacter cloacae* is crucial for enzymatic activity and the formation of covalent adducts with the substrate phosphoenolpyruvate and the antibiotic fosfomycin. *Biochemistry* 38, 13162-13169 (1999)
147. P. Daram, S. Brunner, C. Rausch, C. Steiner, N. Amrhein, M. Bucher: *Phf2;1* encodes a low-affinity phosphate transporter from *Arabidopsis thaliana*. *Plant Cell* 11: 2153-2166 (1999)
148. K. Kitzing, N. Amrhein, P. Macheroux: Overexpression of the bifunctional chorismate synthase of *Neurospora crassa*. In: *Flavins and Flavoproteins* (eds. S. Ghisla et al.). Agency for Scientific Publ. Berlin. pp. 203-206 (1999)
149. J. Strassner, A. Fürholz, P. Macheroux, N. Amrhein, A. Schaller: Overexpression and characterization of 12-oxophytodienoic acid reductase from tomato, a member of the OYE family. In: *Flavins and Flavoproteins* (eds. S. Ghisla et al.). Agency for Scientific Publ. Berlin. pp. 655-658 (1999)
150. T. Fitzpatrick, N. Amrhein, P. Macheroux: Analysis of a trimeric complex involving chorismate synthase from *Bacillus subtilis*. In: *Flavins and Flavoproteins* (eds. S. Ghisla et al.). Agency for Scientific Publ. Berlin. pp. 749-752 (1999)
151. J. Strassner, A. Fürholz, P. Macheroux, N. Amrhein, A. Schaller: A homolog of Old Yellow Enzyme in tomato. *J. Biol. Chem.* 274, 35067-35073 (1999)
152. I. Janzik, P. Macheroux, N. Amrhein, A. Schaller: *LeSBT1*, a subtilase from tomato plants. *J. Biol. Chem.* 275, 5193-5199 (2000)
153. A. Schaller, P. Roy, N. Amrhein: Salicylic acid-independent induction of pathogenesis-related gene expression by fusicoccin. *Planta* 210, 599-606 (1999)
154. E. Schönbrunn, S. Eschenburg, F. Krekel, K. Luger, N. Amrhein: The role of the loop containing residue 115 in the induced-fit mechanism of the bacterial cell wall biosynthetic enzyme MurA. *Biochemistry* 39, 2164-2173 (2000)
155. E. Schönbrunn, S. Eschenburg, K. Luger, Wolfgang Kabsch, N. Amrhein: Structural basis for the interaction of the fluorescence probe 8-anilino-1-naphthalene sulfonate (ANS) with the antibiotic target MurA. *PNAS* 97, 6345 -6349 (2000)
156. F. Krekel, A. K. Samland, P. Macheroux, N. Amrhein, J. N. S. Evans: Determination of the pK_a Value of C115 in MurA (UDP-N-Acetylglucosamine Enolpyruvyltransferase) from *Enterobacter cloacae*. *Biochemistry* 39, 12671-12677 (2000)
157. E. Schönbrunn, S. Eschenburg, W.A. Shuttleworth, J.V. Schloss, N. Amrhein, J.N.S. Evans, W. Kabsch: Interaction of the herbicide glyphosate with its target enzyme 5-enolpyruvylshikimate 3-phosphate synthase in atomic detail. *PNAS* 98, 1376-1380 (2001)

158. T. Fitzpatrick, S. Ricken, M. Lanzer, N. Amrhein, P. Macheroux, B. Kappes: Subcellular localisation and characterization of chorismate synthase in the apicomplexan *Plasmodium falciparum*. *Mol. Microbiol.* **40**, 65-75 (2001)
159. M. Bischoff, A. Schaller, F. Bieri, F. Kessler, N. Amrhein, J. Schmid: Molecular characterisation of tomato 3-dehydroquinate dehydratase-shikimate: NADP oxidoreductase. *Plant Physiol.* **125**, 1891-1900 (2001)
160. A. Samland, T. Etezady-Esfarjani, N. Amrhein, P. Macheroux: Asparagine 23 and aspartate 305 are essential residues in the active site of UDP-N-Acetylglucosamine enolpyruvyl transferase from *Enterobacter cloacae*. *Biochemistry* **40**, 1550-1559 (2001).
161. T. Fitzpatrick, Ph. Killer, R. M. Thomas, I. Jelesarov, N. Amrhein, P. Macheroux: Chorismate Synthase from the Hyperthermophile *Thermotoga maritima* Combines Thermostability and Increased Rigidity with Catalytic and Spectral Properties Similar to Mesophilic Counterparts. *J. Biol. Chem.* **276**, 18052-18059 (2001).
162. A. Samland, I. Jelesarov, R. Kuhn, N. Amrhein, P. Macheroux: Thermodynamic Characterization of Ligand-Induced Conformational Changes in UDP-N-acetylglucosamine Enolpyruvyl Transferase. *Biochemistry* **40**, 9950-9956 (2001).
163. K. Kitzing, P. Macheroux, N. Amrhein: Spectroscopic and Kinetic Characterization of the Bifunctional Chorismate Synthase from *Neurospora crassa*. *J. Biol. Chem.* **276**, 42658-42666 (2001).
164. Bucher M, Brunner S, Zimmermann P, Zardi G, Amrhein N, Willmitzer L and Riesmeier, JW.: The expression of an extensin-like protein correlates with cellular tip growth in tomato. *Plant Physiol.* 128: 911-923 (2002).
165. Strassner, J., Schaller, F., Frick, U., Howe, G. A., Weiler, E. W., Amrhein, N., Macheroux, P., and Schaller, A.: Characterization and cDNA-microarray expression analysis of 12-oxophytodienoate reductases reveals differential roles for octadecanoid biosynthesis in the local versus the systemic wound response. *Plant J.*, 32, 585-601 (2002).
166. Zoń, J., Amrhein, N. and Gancarz, R.: Inhibitors of phenylalanine ammonia-lyase: 1-aminobenzylphosphonic acids substituted in the benzene ring. *Phytochem.* 59, 9-21 (2002).
167. Appert C, Zoń J and Amrhein N. (2003) Kinetic analysis of the inhibition of phenylalanine ammonia-lyase by 2-aminoindan-2-phosphonic acid and other phenylalanine analogues. *Phytochem.* 62: 415-422
168. Steiner C, Bauer J, Amrhein N and Bucher M. (2003) Two novel genes are differentially expressed during early germination of the male gametophyte of *Nicotiana tabacum*. *Biochim Biophys Acta* 1625: 123-133
169. Fitzpatrick TB, Amrhein N and Macheroux P. (2003) Characterization of YqJM, an Old Yellow Enzyme homolog from *Bacillus subtilis* involved in the oxidative stress response. *J Biol Chem* 278: 19891-19897
170. Zimmermann P, Zardi G, Lehmann M, Zeder C, Amrhein N, Frossard E and Bucher M.(2003) Engineering the root-soil interface via targeted expression of a synthetic phytase gene in trichoblasts. *Plant Biol J* 1: 353-360

171. Kitzing K, Auweter S, Amrhein N and Macheroux P. (2004) Mechanism of chorismate synthase. *J Biol Chem* 279: 9451-9461
172. Karandashov V, Nagy R, Wegmüller S, Amrhein N and Bucher M. (2004) Evolutionary conservation of a phosphate transporter in the arbuscular mycorrhizal symbiosis. *Proc Natl Acad Sci USA* 101: 6285-6290
173. Zoń J, Szefczyk B, Sawka-Dobrowolska W, Gancarz R, Kucharska-Zoń, Latjka R, Amrhein, N. and Szczepanik W. (2004) Experimental and *ab initio* calculated structures of 2-aminoindan-2-phosphonic acid, a potent inhibitor of phenylalanine ammonia-lyase, and theoretical studies of its binding to the model enzyme structure. *New J Chem* 28: 1048-1055
174. Rausch C, Zimmermann P, Amrhein N and Bucher M. (2004) Expression analysis suggests novel roles for the plastidic phosphate transporter Pht2;1 in auto- and heterotrophic tissues in potato and *Arabidopsis*. *Plant J* 39: 13-28
175. Thomas A, Ginj C, Jelesarov I, Amrhein N and Macheroux P. (2004) Role of K22 in the covalent binding of the antibiotic fosfomycin and the substrate-induced conformational change in UDP-N-acetylglucosamine enolpyruvyl transferase. *Eur J Biochem* 271: 2682-2690
176. Schlosser M, Brügger N, Schmidt W and Amrhein N. (2004) β,β -Difluoro analogs of α -oxo- β -phenylpropionic acid and phenylalanine. *Tetrahedron* 60: 7731-7742
177. Zimmermann P, Regierer B, Kossmann J, Frossard E, Amrhein N and Bucher M. (2004) Differential regulation of three purple acid phosphatases from potato. *Plant Biol* 6: 1-10
178. Fitzpatrick TB, Auweter S, Kitzing K, Clausen T, Amrhein N and Macheroux P. (2004) Structural and functional impairment of an old yellow enzyme homologue upon affinity tag incorporation. *Protein Expression & Purification* 36: 280-291
179. Kluczyk A, Szefczyk B, Amrhein N and Zoń J. (2005) (*E*)-Cinnamic acid analogues as inhibitors of phenylalanine ammonia-lyase and of anthocyanin biosynthesis. *Pol J Chem.* 79: 583-592
180. Zoń J, Miziak P, Amrhein N. and Gancarz R. (2005) Synthesis and biological evaluation of 5-substituted 2-aminoindane-2-phosphonic acids. *Chemistry & Biodiversity* 2: 1187 - 1194
181. Werner TP, Amrhein N and Freimoser FM. (2005) Novel method for the quantification of inorganic polyphosphate (iPoP) in *Saccharomyces cerevisiae* shows dependence of iPOP content on the growth phase. *Arch Microbiol* 184: 129-136
182. Ginj C, Rüegger H, Amrhein N and Macheroux P. (2005) 3'Enolpyruvyl-UMP, a novel and unexpected metabolite in nikkomycin biosynthesis. *ChemBioChem* 6: 1974-1976
183. Raschle T, Amrhein N, Fitzpatrick TB. (2005): On the two components of pyridoxal 5'-phosphate synthase from *Bacillus subtilis*. *J Biol Chem* 280: 32291-32300
184. Tambasco-Studart M, Titiz O, Raschle T, Forster G, Amrhein N and Fitzpatrick TB. (2005) Vitamin B₆ biosynthesis in higher plants. *Proc Natl Acad Sci USA* 102: 13687-13692
185. Nagy R, Karandashov V, Chague V, Kalinkevich K, Tamasloukht M'B, Xu G, Jakobsen I, Levy AA, Amrhein N and Bucher M. (2005) The characterization of novel mycorrhiza-

- specific phosphate transporters from *Lycopersicon esculentum* and *Solanum tuberosum* uncovers functional redundancy in symbiotic phosphate transport in solanaceous species. Plant J 32: 236-250
186. Nagy R, Vasconcelos MJV, Zhao S, McElver J, Bruce W, Amrhein N, Raghothama KG and Bucher M. (2006) Differential regulation of five Pht1 phosphate transporters from maize (*Zea mays* L.). Plant Biol 8: 186-197
 187. Titiz O, Tambasco-Studart M, Warzych E, Apel K, Amrhein N, Laloi C and Fitzpatrick TB. (2006) PDX1 is essential for vitamin B6 biosynthesis, development and stress tolerance in *Arabidopsis*. Plant J 48: 933-946
 188. Freimoser FM, Hürlmann HC, Jakob JA, Werner TP and Amrhein N. (2006) Systematic screening of polyphosphate (polyP) levels in yeast mutant cells reveals strong interdependence with primary metabolism. Genome Biol 7: R109
 189. Raschle T, Arigoni D, Brunisholz R, Amrhein N and Fitzpatrick TB. (2007) Reaction mechanism of pyridoxal 5'-phosphate synthase: detection of an enzyme bound chromophoric intermediate. J Biol Chem 282: 6098-7105
 190. Häring DA, Suter D, Amrhein N and Lüscher A. (2007) Biomass allocation is an important determinant of the tannin concentration in growing plants. Ann Bot 99: 111-120
 191. Miziak P, Zoń J, Amrhein N and Gancarz R. (2007) Inhibitors of phenylalanine ammonia-lyase: Substituted derivatives of 2-aminoindane-2-phosphonic acid and 1-aminobenzylphosphonic acid. Phytochem. 68: 407-415
 192. Alpi A, Amrhein N, Bertl A, Blatt MR, Blumwald E, Cervone F., Dainty J, De Michelis MI, Epstein E, Galston AW et al.(2007) Plant neurobiology: no brain, no gain? Trends Plant Sci 12: 135-136
 193. Tambasco-Studart M, Tews I, Amrhein N and Fitzpatrick TB. (2007) Functional analysis of PDX2 from *Arabidopsis*, a glutaminase involved in vitamin B6 biosynthesis. Plant Physiol 144: 915-925
 194. Fitzpatrick TB, Amrhein N, Kappes B, Macheroux P, Tews I and Raschle T. (2007) Two independent routes of de novo vitamin B6 biosynthesis: Not that different after all. Biochem J 407: 1-13
 195. Raschke M, Bürkle L, Müller N, Nunes-Nesi AR, Arigoni D, Amrhein N and Fitzpatrick TB. (2007) Vitamin B1 biosynthesis in plants requires the essential iron-sulfur cluster protein, THIC. Proc Natl Acad Sci USA 104: 19637-19642
 196. Drissner D, Kunze G, Callewaert N, Gehrig P, Tamasloukht, M'B, Boller T, Felix G, Amrhein N and Bucher M. (2007) Lyso-Phosphatidylcholine is a signal in the arbuscular mycorrhizal symbiosis. Science 318: 265-268
 197. Werner TP, Amrhein N and Freimoser FM. (2007) Specific localization of inorganic polyphosphate (polyP) in fungal cell walls by selective extraction and immunohistochemistry. Fungal Genet Biol 44: 845-852
 199. Werner TP, Amrhein N and Freimoser FM. (2007) Inorganic polyphosphate occurs in the cell wall of *Chlamydomonas reinhardtii* and accumulates during cytokinesis. BMC Plant Biol 7:51

200. Wegmüller S, Svistoonoff S, Reinhardt D, Stuurman J, Amrhein N and Bucher M. (2008) A transgenic dTph1 insertional mutagenesis system for forward genetics in mycorrhizal phosphate transport of *Petunia*. *Plant J* **54**: 1115 - 1127
201. Raschle T, Speziga D, Kress W, Moccand C, Gehrig P, Amrhein N, Weber-Ban E and Fitzpatrick TB. (2009) Intersubunit crosstalk in pyridoxal 5'-phosphate synthase, co-ordinated by the C-terminus of the synthase subunit. *J Biol Chem* **284**, 7706 - 7718
202. Nagy R, Drissner D, Jakobsen I, Amrhein N and Bucher M. (2009) The mycorrhizal phosphate uptake pathway in tomato is P-repressible and transcriptionally regulated. *New Phytol* **181**, 950 -958
203. Amrhein, N. (2009) Die Zelle als Kraftwerk. In: Energie (eds. P.Rudolf von Rohr, P.Walde) vdf Hochschulverlag Zürich. pp. 115 - 126
204. Raschke M, Boycheva S, Crèvecouer M, Nunes-Nesi A, Witt S, Fernie AR, Amrhein N, Fitzpatrick TB (2011) Enhanced levels of vitamin B₆ increase aerial organ size and positively affect stress tolerance in *Arabidopsis*.*Plant J* **66**: 414 -432
205. Amrhein, N. (2012) Obituary. Meinhart Zenk, 04 Februray 1933 – 05 July 2011. *Phytochemistry* **91**, 10-19

Patent:

Fitzpatrick TB, Raschke M and Amrhein N. (2008) Overproduction of vitamin B₆ in plants. EP08001399.8-1212. Applicant/Proprietor: ETH Zurich, Switzerland. Filed: 01/2008