

6. References:

- Adams M. D., Celniker S. E., Holt R. A., Evans C. A., Gocayne J. D., Amanatides P. G., Scherer S. E., Li, P. W., Hoskins R. A., Galle R. F., and George R. A.** (2000) *The Genome Sequence of Drosophila melanogaster* Science, **287**: 2185-2195.
- Allagulova C. R. Gimalov F. R. Shakirova F. M. and Vakhitov V. A.** 2003 *The plant dehydrins: Structure and putative functions* Biochemistry (Moscow) **68**:945–951
- Antikainen M. Griffith M. Zhang J. Hon W C. Yang D. S. C. and Pihakaski-Maunsbach K.** (1993) *Immunolocalization of antifreeze proteins in winter rye leaves, crowns, and roots by tissue printing* Plant Physiol. **110**:845–857
- Ashworth E.N., Pearce R.S.** (2002) *Extracellular freezing in leaves of freezing-sensitive species.* Planta. **214**:798-805
- Bakaltcheva I. and Hinch D.K.** (1995) *Concentration dependent permeability of spinach thylakoid membranes for glycerol.* Cryo-Letters **16**:231-242.
- Baker J., Steele C., Dure III L.** (1988) *Sequence and characterization of 6 Lea proteins and their genes from cotton.* Plant Mol Biol. **24**:701-713
- Bomal C., Le V. Q., and Tremblay F. M.** (2002) *Induction of tolerance to fast desiccation in black spruce (Picea mariana) somatic embryos: relationship between partial water loss, sugars, and dehydrins.* Physiol Plant. **115**:523-530.
- Bravo L. A., Close, T. J., Corcuera L. J. and Guy C. L.** (1999). *Characterization of an 80- kDa dehydrin-like protein in barley responsive to cold acclimation.* Physiol. Plant. **106**:177-183.
- Busk P. K., and Pages M.** (1998) *Regulation of abscisic acid-induced transcription.* Plant Mol. Biol., **37**:425-435.
- Campbell S. A., Close T. J.** (1997) *Dehydrins: genes, proteins, and associations with phenotypic traits.* New Phytol. **137**:61-74
- Campbell S. A., Crone D. E., Ceccardi T. L., and Close T. J.** (1998) *A ca. 40 kDa maize (Zea mays L.) embryo dehydrin is encoded by the dhn2 locus on chromosome 9.* Plant Mol. Biol., **38**:417-423.
- Carpenter J.F. and Crowe, J.H.** (1988). *The mechanism of cryoprotection of proteins by solutes.* Cryobiol. **25**: 244–255.
- Castillo J., Zuniga A., Franco L., and M. I. Rodrigo** (2002) *A chromatin-associated protein from pea seeds preferentially binds histones H3 and H4.* FEBS J. **269(18)**:4641 - 4648

References

- Ceccardi T. L., Meyer NC, Close TA** (1994) *Purification of maize dehydrin*. Prot Exp Pur. **5**:266-269
- Choi D.W., Zhu B., and Close T.J.** (1999) *The barley (Hordeum vulgare L.) dehydrin multigene family: Sequences, allele types, chromosome assignments, and expression characteristics of 11 Dhn genes of cv Dicktoo*. Theor. Appl. Genet. **98**:1234-1247.
- Close T. J.** (1996) *Dehydrins: emergence of a biochemical role of a family of plant dehydration proteins*. Physiol Plant. **97**:795-803
- Close T. J** (1997) *Dehydrins: a commonalty in the response of plants to dehydration and low temperature*. Physiol Plant. **100**:291-296
- Danyluk J., Perron A., Houde M., Limin A., Fowler B., Benhamou N. and Sarhan F.** (1998) *Accumulation of an acidic dehydrin in the vicinity of the plasma membrane during cold acclimation of wheat*. Plant Cell **10**:623-638.
- Davidson W. S., Jonas A., Clayton D. F. and George J. M.** (1998) "Stabilization of alpha-synuclein secondary structure upon binding to synthetic membranes." J. Biol. Chem. **273**:9443-9449.
- Dure III L., Crouch M., Harada J., Ho T-H. D., Mundy J, Quatrano R., Thomas T., Sung Z. R.** (1989) *Common amino acid sequence domains among the LEA proteins of higher plants*. Plant Mol Biol. **12**:475-486
- Egerton-Warburton L. M., Balsamo R. A. and Close T. J.** (1997) *Temporal accumulation and ultrastructural localization of dehydrins in Zea mays*. Physiol. Plant. **101**:545-555.
- Garay-Arroyo A., Colmenoro-Florest J.M., Garcarrubio A. and Covarrubias A.A.** (2000) *Highly hydrophilic proteins in prokaryotes and eucaryotes are common during conditions of water deficit*. J. Biol. Chem. **275**:5668-5674.
- Goday A., Jensen A. B., Culianezmacia F. A., Alba M. M., Figueras M., Serratos J., Torrent M. and Pages M.** (1994) *The maize abscisic acid-responsive protein RAB17 is located in the nucleus and interacts with nuclearlocalization signals*. Plant Cell **6**:351-360.
- Golan-Goldhirsh A.** (1998) *Developmental proteins of Pistacia vera L. bark and bud and their biotechnological properties: a review*. Journal of Food Biochemistry. **22**:375-382
- Griffith M., Antikainen M.** (1996) *Extracellular ice formation in freezing-tolerant species*. Adv Low-Temp Biol. **3**:107-139
- Griffith M and Yaish M W F** 2004 *Antifreeze proteins in overwintering plants: a tale of two activities*; TIPS **9** 399–405
- Hara M, Terashima S., Kuboi T.** (2001) *Characterization and cryoprotective activity of coldresponsive dehydrin from Citrus unshiu*. J Plant Physiol. **158**:1333-1339

References

- Heber U., Kempfle, M.** (1970) *Proteine als Schutzstoffe gegenüber dem Gefriertod der Zelle*. Z. Naturforsch. **25b**: 834–842
- Hellwege E. M., Dietz K. J., Volk O. H., and Hartung W.** (1994) *Abscisic acid and the induction of desiccation tolerance in the extremely xerophilic liverwort Exormotheca holstii*. Planta, **194**:525-531.
- Heyen B.J, Alsheikh M. K., Smith E. A., Torvik C. F., Seals D. F., Randall S. K.** (2002) *The calciumbinding activity of a vacuole-associated, dehydrin-like protein is regulated by phosphorylation*. Plant Physiol. **130**:675-687
- Hincha D. K. and Schmitt J. M.** (1986) Mechanical and chemical injury to thylakoid membranes during freezing *in vitro*. Biochim. Biophys. Acta **812**:173-180.
- Hincha D. K. and Schmitt J. M.** (1989): *Mechanical freeze-thaw damage and frost hardening in leaves and isolated thylakoids from spinach. Frost hardening reduces solute permeability and increases extensibility of thylakoid membranes*. Plant Cell Environ **11**: 47-50.
- Hincha D. K., Heber U. and Schmitt J. M.** (1990) *Proteins from frost-hardy leaves protect thylakoids against mechanical freeze-thaw damage in vitro*. Planta **180**:416-419.
- Hincha D. K. and Schmitt J. M.** (1992 a) *Cryoprotective leaf proteins - assay methods and heat stability*. J Plant Physiol **140**:236-240.
- Hincha D. K. and Schmitt J. M.** (1992 b) *Freeze-thaw injury and cryoprotection of thylakoid membranes*. In *Water and life*, (Somero G.N., Osmond C.B. and Bolis C.L., eds) Berlin, Heidelberg: Springer, pp. 316-337.
- Hincha D.K., Sieg F., Bakaltcheva I., Köth H. and Schmitt J.M.** (1996 a) *Freeze-thaw damage to thylakoid membranes: specific protection by sugars and proteins*. In *Advances in low-temperature biology 3*, (Steponkus P., ed) JAI Press, pp. 141-183.
- Hincha D. K., Neukamm B., Srer H.A.M., Sieg F., Weckwarth W., Rückels M., Lullien-Pellerin V., Schröder W. and Schmitt J. M.** (2001) *Cabbage cryoprotectin is a member of the nonspecific plant lipid transfer protein gene family*. Plant Physiol. **125**:835-846.
- Hoekstra F. A, Golovina E. A, Buitink J.** (2001) *Mechanism of plant desiccation tolerance*. Trends Plant Sci. **6**:431-438
- Houde, M., Danyluk, J., Laliberte, J. F., Rassart, E., Dhindsa, R. S. and Sarhan, F.** (1992) *Cloning, characterization, and expression of a cDNA encoding a 50-kilodalton protein specifically induced by cold- acclimation in wheat*. Plant Physiol. **99**:1381-1387.
- Houde M., Daniel C., Lachapelle M., Allard F., Laliberte S. and Sarhan F.** (1995) *Immunolocalization of freezing-tolerance-associated proteins in the cytoplasm and nucleoplasm of wheat crown tissues*. Plant J. **8**:583-593.

References

- Ismail A. M., Hall A. E., Close T. J.** (1999) *Purification and partial characterization of a dehydrin involved in chilling tolerance during seedling emergence of cowpea.* Plant Physiol. **120**:237-244
- Jepson S. G. and Close T. J.**(1995). "Purification of a Maize Dehydrin Protein Expressed in *Escherichia-Coli*." Prot. Exp. Purif. **6(5)**:632-636.
- Karlson D. T., Fujino T., Kimura S., Baba K., Itoh T. and Ashworth E. N.** (2003) *Novel plasmodesmata association of dehydrin-like proteins in cold acclimation red-osier dogwood (*Cornus sericea*).* Tree Physiol. **23**:759-767.
- Kazuoka T. and Oeda K.,** (1994). "Purification and Characterization of Cor85-Oligomeric Complex from Cold-Acclimated Spinach." Plant Cell Physiol. **35(4)**:601-611.
- Koag M-C., Fenton R. D., Wilken S. and Close T. J.** (2003) *The binding of maize DHN1 to lipid vesicles. Gain of structure and lipid specificity.* Plant. Physiol. **131**:309-316.
- Laemmli UK.** (1970) *Cleavage of structural proteins during the assembly of the head of bacteriophage T4* Nature **227**:105-132
- Lang V. and Palva E. T.** (1992) *The expression of a RAB-related gene, RAB18, is induced by abscisic-acid during the cold-acclimation process of Arabidopsis thaliana (L) Heynh.* Plant Mol. Biol. **20**:951-962.
- Levi A.,Panta G. R., Parmentier C. M., Muthalif M. M., Arora R., Shanker S., Rowland L. J.** (1999) *Complementary DNA cloning, sequencing and expression on an unusual dehydrin from blueberry floral buds.* Physiol Plant. **107**:98-109
- Lindorff L., Paci E., Serrano L., Dobson C., and Vendruscolo M.** (2003) *Calculation of Mutational Free Energy Changes in Transition States for Protein Folding.* Biophysical Journal Vol. **85**:1207–1214
- Lisse T., Bartels D., Kalbitzer H. R.,and Jaenicke R.** (1996) *The recombinant dehydrinlike desiccation stress protein from the resurrection plant Craterostigma plantagineum displays no defined three-dimensional structure in its native state.* Biol. Chem. **377**:555-561.
- Mundy J., Chua N-H.,** (1988) *Abscisic acid and water-stress induce the expression of a novel rice gene.* EMBO J. **7**:2279-2286
- Mueller K., Heckathorn S., and Fernando D.** (2003) *Identification of a Chloroplast Dehydrin in Leaves of Mature Plants.* International Journal of Plant Sciences **164**:535–542.
- Nylander M., Svensson J., Palva E.T. and Welin B.V.** (2001) *Stress-induced accumulation and tissue-specific localisation of dehydrins in Arabidopsis thaliana.* Plant Mol. Biol. **45**:263-279.

References

- Oliver A. E., Hinch D. K., Crowe J. H.** (2002) *Looking beyond sugars: the role of amphiphilic solutes in preventing adventitious reactions in anhydrobiotes at low water contents.* *Comp Biochem Physiol.* **131A**:515-525
- Pearce R. S.** (2001) *Plant freezing and damage.* *Ann Bot.* **87**:417-424
- Popova A. V., Schmitt J. M. and Hinch D. K.** (1998) *Interactions of proline, serine and leucine with isolated spinach thylakoids: solute loading during freezing is not related to membrane fluidity.* *Cryobiol.* **37**:92-99
- Puhakainen T., Hess M. V., Mäkela P., Svenson J., Heino P. and Palva E. T.** (2004) *Overexpression of multiple dehydrin genes enhances tolerance to freezing stress in Arabidopsis.* *Plant Mol. Biol.* **54**:743-753.
- Rinne P. L. H., Kaikuranta P. L. M., van der Plas L. H. W., van der Schoot C.** (1999) *Dehydrins in cold-acclimated apices of birch (Betula pubescens Ehrh.): production, localization and potential role in rescuing enzyme function during dehydration.* *Planta.* **209**:377-388
- Rodriguez E. M, Svenson J. T., Malatrasi M., Choi D.-W and Close T. J.** (2005) *Barley Dhn13 encodes a KS-type dehydrin with constitutive and stress responsive expression.* *Theor. Appl. Genet.* **110** :852-858.
- Rorat T., Szabala B. M., Grygorowicz W. J., Wojtowicz B., Yin Z. and Rey P.** (2006) *Expression of SK3-type dehydrin in transporting organs is associated with cold acclimation in Solanum species.* *Planta* **224**:205-221.
- Rorat T., Grygorowicz W. J., Irzykowski W. and Rey P.** (2004) *Expression of KS-type dehydrins is primarily regulated by factors related to organ type and leaf developmental stage under vegetative growth.* *Planta* **218**:878-885.
- Sakai A, Larcher W.** (1987) *Frost survival of plants: responses and adaptation to freezing stress.* Springer Verlag, Berlin
- Sarhan F., Oullet F. and Vazquez-Tello A.** (1997) *The wheat wcs120 gene family: a useful model to understand the molecular genetics of freezing tolerance in cereals.* *Physiol. Plant.* **101**:439-445.
- Sieg F., Schröder W., Schmitt J. M., and Hinch D. K.** (1996) *Purification and characterization of a cryoprotective protein (cryoprotectin) from the leaves of cold acclimated cabbage.* *Plant Physiol.* **111**:215-221
- Solomon A., Salomon R., Paperna I. and Glazer I.** (2000) *Desiccation stress of ntomopathogenic nematodes induces the accumulation of a novel heat stable product.* *Parasitology* **121**:409-416.
- Sror H. A. M., Tischendorf G., Sieg F., Schmitt J. M. and Hinch D. K.** (2003) *Cryoprotectin protects thylakoids during a freeze-thaw cycle by a mechanism involving stable membrane binding.* *Cryobiology* **47**:191-203

References

- Steponkus P. L.** (1984) *Role of plasma membrane in freezing injury and cold acclimation*. *Annu Rev Plant Physiol Plant Mol Biol.* **35**:543-584
- Svensson J, Ismail A. M., Palva E. T., Close T. J.** (2002) *Dehydrins*. In Storey KB, Storey JM, *Cell and Molecular Responses to Stress*, Ed 1 **Vol 3**. Elsevier Press, Amsterdam, pp 155-171
- Svensson J., Palva E. T., Welin B.** (2000) *Purification of recombinant Arabidopsis thaliana dehydrins by metal ion affinity chromatography*. *Prot Exp Pur.* **20**:169-178
- Takahashi M. and Asada K.** (1986) *Sizes of Mn-binding sites in Spinach Thylakoids*. *The journal of Biological Chemistry* Vol. 261 No. **36**:16923-16926.
- Thomashow M. F.,** (1999) *Plant cold acclimation: Freezing tolerance genes and regulatory mechanisms*. *Ann Rev Plant Physiol Plant Mol Biol,* **50**:571-599
- Utsumi Y., Sano Y., Funada R., Ohtani J., Fujikawa S.** (2003) *Seasonal and perennial changes in the distribution of water in the sapwood of conifers in a sub-frigid zone*. *Plant Physiol.* **131**:1826-1833
- Watanabe S. and Yamada M.** (1992) *Purification and characterisation of a non-specific lipid transfer protein from germinated castor bean endosperms which transfers phospholipids and galactolipids*. *Biochim. Biophys. Acta* **876**:116-123
- Williams R. and Meryman H.** (1970) *Freezing Injury and Resistance in Spinach Chloroplast Grana* *Plant Physiol.* 1970 **45(6)**:752–755.
- Wisniewski M., Webb R., Balsamo R., Close T. J., Yu X. M., Griffith M.** (1999) *Purification, immunolocalization, cryoprotective, and antifreeze activity of PCA60: a dehydrin from peach (Prunus persica)*. *Physiol Plant.* **105**:600-608