Curriculum Vitae

Mette Dahl Andersen, Ph.D.
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Research Experience

2002-current **Senior Research Scientist** at Novo Nordisk A/S. Department of Protein Structure and Biophysics, Biopharmaceutical Research Unit.

- Structural biology
- Hydrogen-deuterium exchange-mass spectrometry
- Protein biophysics
- Protein stability and formulation

1999-2001 **Postdoctoral fellow** at University of California, San Diego, Department of Chemistry and Biochemistry in the laboratory of Associate Professor Patricia A. Jennings.

- protein folding, aggregation and protein dynamics studied by hydrogen-deuterium exchange and MALDI- and ESI-mass spectrometry.

1996-1999 **Ph. D**. from The Royal Veterinary and Agricultural University (now University of Copenhagen), Department of Plant Biology, Plant Biochemistry Laboratory. Supervisor: Professor Birger Lindberg Møller.

- Ph.D. dissertation: "Cytochromes P450 from cassava catalyzing the first steps in the biosynthesis of the cyanogenic glucosides linamarin and lotaustralin".

1994-1996 **M. Sc.** from University of Copenhagen, Department of Molecular Biology with major in biochemistry and protein chemistry. Supervisor: Associate Professor Karen Skriver.

- Master thesis: "Heterologous expression and characterization of wild-type and mutant forms of a 26 kDa endochitinase from barley".

1995 3 week stay in Dr. J. D. Robertus laboratory at University of Texas, Austin as part of M. Sc. project.

Scholarships/Grants

2000 - 2001 Postdoctoral fellowship from the Carlsberg Foundation.

1996 - 1999 Ph. D. Scholarship from The Royal Veterinary and Agricultural University, Denmark.

1994 - 1995 Novo Nordisk Master student scholarship.

1995 Travel grant from the Faculty of Natural Sciences, University of Copenhagen for visiting the laboratory of Dr. J. D. Robertus at University of Texas, Austin.

Publications

1. Skriver, K., Hansen, B. and **Andersen, M. D.** (1996) "Functional role of Glu-89 in 26 kDa barley endochitinase studied by site-directed mutagenesis". In *Chitin Enzymology*, vol 2, (Muzzarelli, R.A.A., ed.) pp103-108.

2. **Andersen, M. D.**, Jensen, A., Leah, R., Robertus, J. D., and Skriver, K. (1997) "Heterologous expression and characterization of wild-type and mutant forms of a 26 kDa endochitinase from *Hordeum Vulgare* L.". *Biochem. J.* **322,** 815-822.

3. **Andersen, M. D.**, and Møller, B. L. (1998) Double Triton X-114 Phase Partitioning for the Purification of Plant Cytochromes P450 and Removal of Green Pigments. *Protein Expression Purification* **13**, 366-372.

4. **Andersen, M. D.**, Busk, P. B., Svendsen, I., and Møller, B. L. (2000) Cytochromes P450 from Cassava (*Manihot esculenta* Crantz) catalyzing the first steps in the biosynthesis of the cyanogenic glucosides linamarin and lotaustralin. *J. Biol. Chem.* **275**, 1966-1975.

5. Jones, P. R., **Andersen, M. D.**, Nielsen, J. S., Høj, P. B., and Møller, B. L. (2000) The biosynthesis, degradation, transport and possible function of cyanogenic glucosides. *Recent Advances in Phytochemistry "Evolution of Metabolic Pathways"*, (J.T. Romeo et al, ed.) pp 191-247.

6. **Andersen, M. D.**, Shaffer, J. S., Jennings, P. A., and Adams, J. A. (2001) Structural Characterization of Protein Kinase A as a Function of Nucleotide Binding. *J. Biol. Chem.* **276,** 14204-14211.

7. **Andersen, M. D.**, and Møller, B. L. (2002) Use of Methylotropic Yeast *Pichia pastoris* for Expression of Cytochrome P450. *In: Methods in Enzymology, Cytochrome P450, Part C* **357**, 333-342. E.F.Johnson and M.R.Waterman .

8. Rand, K.D., Jørgensen, T.J.D., Olsen, O.H., Persson, E., Jensen, O.N., Stennicke, H.R., and **Andersen, M.D.** (2006) Allosteric Activation of Coagulation Factor VIIa Visualized by Hydrogen Exchange. *J. Biol. Chem.* **281,** 23018–23024.

9. Rand, K.D., **Andersen, M.D.**, Olsen, O.H., Jørgensen, T.J.D., Østergaard, H., Jensen, O.N., Stennicke, H.R., and Persson, E. (2008) The Origins of Enhanced Activity in Factor VIIa Analogs and the Interplay between Key Allosteric Sites Revealed by Hydrogen Exchange Mass Spectrometry. *J. Biol. Chem.* **283,** 13378-13387.

10. Svensson, L.A., Bondensgaard, K., Nørskov-Lauritsen, L., Christensen, L., Becker, P., **Andersen, M.D.**, Maltesen, M.J., Rand, K.D., and Breinholt, J. (2008) Crystal structure of a prolactin receptor antagonist bound to the extracellular domain of the prolactin receptor. *J. Biol. Chem.* **283,** 19085-19094.

11. Hailey, K.L., Li, S., **Andersen, M.D.**, Roy, M., Woods, Jr., V.L., and Jennings, P.A. (2009) Pro-interleukin (IL)-1β Shares a Core Region of Stability as Compared with Mature IL-1β While Maintaining a Distinctly Different Configurational Landscape. A COMPARATIVE HYDROGEN/DEUTERIUM EXCHANGE MASS SPECTROMETRY STUDY. *J. Biol. Chem.* **284,** 26137-26148.

12. **Andersen, M.D.**, Kjalke, M., Bang, S., Lautrup-Larsen, I., Becker, P., Andersen, A.S., Olsen, O.H., and Stennicke, H.R. Coagulation Factor XIII Variants with Altered Thrombin Activation Rates. *Biol.Chem.,* **390**, 1279-1283.

13. Kristiansen, G.K., and **Andersen, M.D**., *Manuscript in prep*

14. **Andersen, M.D.** and Faber, J.H. *Manuscript in prep* for an invited paper for *Int. J. Mass. Spec.*