Spin-label EPR on Disordered and Amyloid Proteins

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Stellingen

behorende bij het proefschrift

SPIN-LABEL EPR ON DISORDERED AND AMYLOID PROTEINS

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1) To obtain reproducible EPR spectra of amyloid β samples it is essential to carefully position each sample in the cavity relative to the maximum of the B_1 field.
(Chapters 2, 3, and 4)

2) Additional features in the distance-distribution plot that are obtained in the analysis of the Double Electron-Electron Resonance time traces of α-synuclein fibrils probably derive from intermolecular interactions rather than artifacts.
(Chapter 5; Karyagina et al. Biophysical Journal, 101 (2011): L01-03)

3) The long N-terminal domain of the CP29 protein is structured.
(Chapter 6; Pan et al. Nature Structural and Molecular Biology, 18 (2011): 309-16)

4) In order to be able to interpret the EPR spectrum of TOAC peptides in acetonitrile, removal of oxygen from the sample is essential.
(Chapter 7)

5) The rate of freezing or thawing of cells during cryopreservation determines whether the structure and biological function of cells remains intact.
(Karlsson et al. Biomaterials, 17 (1996): 243-256; A.Z. Higgins et al. Journal of Neuroscience Methods, 201 (2011): 9-16)

6) Transport and turnover of membrane cholesterol in the brain plays a role in the development of Alzheimer's disease.
(Mathew et al. Brain Research Bulletin, 86 (2011): 1-12; B garner. BBA - Molecular and Cell Biology of Lipids, 1801 (2010): 853-859)

7) The approach used by Scarpelli et al. to investigate the interaction of peptides with membranes can be used to examine the effect of the thickness of the membrane on the state of these peptides.
(Scarpelli et al. Journal of Physical Chemistry B, 113 (2009): 12257-12264)

8) A single physicochemical technique is not sufficient to obtain a realistic picture of the aggregates of the amyloid β peptide.
(Wahlström et al. the FEBS journal, 275 (2008): 5117-5128; Jarvet et al. J Biomol NMR, 39 (2007): 63-72)