

# Carbon Nanotubes Electrochemistry Allows the In Situ Evaluation of the Effect of $\beta$ -Sheet Breakers on the Aggregation Process of $\beta$ -Amyloid

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The inhibition of aggregation and disaggregation effect of a  $\beta$ -sheet breaker was evaluated by in situ electrochemistry of the A $\beta$  1-42 peptide. The exposition of 10tyr residue was followed using a carbon nanotubes modified glassy carbon electrode immersed directly in the solution. Both processes were studied at a ratio of A $\beta$ / $\beta$ -sheet breaker of 10 $\mu$ M:100 $\mu$ M which is effective in vitro. This approach was compared with Thioflavin-T-induced fluorescence, gel electrophoresis and electron microscopy results. The results provide new clues about the disposition of the N-terminal residue of A $\beta$  in the structure of small aggregates, fibrils and amorphous aggregates and is promising for screening inhibitors of  $\beta$ -amyloid aggregation. © 2012 WILEY-VCH Verlag GmbH & Co. KGaA, Weinheim.