Time is of the essence - investigating kinetic interactions between drug, endogenous neuropeptides and receptor

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Stellingen bij het proefschrift

Time is of the essence

Investigating kinetic interactions between drug, endogenous neuropeptides and receptor

- To date, numerous examples greatly emphasize the impact of binding kinetics but kinetic binding parameters are unfortunately often only considered in retrospect, if at all (Chapter 3, this thesis)

- The kinetic profile of endogenous ligands is grossly underestimated while it can significantly contribute to understanding a drug's desired kinetic profile (Chapter 2 and 5, this thesis)

- Broadening the scope from binding kinetics to the effects of binding kinetics on the kinetics of signal transduction will improve the predictions of *in vivo* drug responses (Chapter 6, this thesis)

- Kinetic binding assays and kinetic functional assays are very suitable to qualitatively and quantitatively study the binding kinetics of numerous ligands (Chapter 3 and 6, this thesis)

- A better understanding of the interdependence of persistent ligand binding and sustained receptor activation would offer greater clarity into the pharmacological regulation of receptor activation. (Hothersall et al Drug Discovery Today 2015, 21, 90-96)

- A study that compares agonist binding kinetics and GPCR desensitization/internalization kinetics would be of great interest. (Guo et al Med Res Rev 2014, 4, 856-892)

- Neuropeptides can be considered the language of the stressed nervous system as they become prominent during stress, injury and other pathophysiological conditions. (Hokfelt et al Lancet Neurol. 2003, 8, 463-472)

- Increased use of binding kinetics together with structural studies and molecular modeling and simulation will provide a better understanding of the dynamics of drug action at GPCRs. (Swinney et al Current Topics in Medicinal Chemistry 2015, 15, 2504-2522)

- A scientific conference at which half of the keynote speakers are women stands out simply because of that (Nature 2013, 5, 495)

- Where there is no struggle, there is no strength (Oprah Winfrey)

- A woman in science is like a pink carrot, not everyone will eat it but it tastes just the same

- Getting your PhD is like wearing a pair of high heels, it might cause you a few blisters along the way but the benefits are worth it