Towards improved drug action : target binding kinetics and functional efficacy at the mGlu2 receptor

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LIST OF PUBLICATIONS

Part of this thesis:

Maarten L.J. Doornbos, Sophie C. Vermond, Hilde Lavreysen, Gary Tresadern, Adriaan P. IJzerman, Laura H. Heitman. *Impact of allosteric modulation: exploring the binding kinetics of glutamate and other orthosteric ligands of the metabotropic glutamate receptor 2.* Biochemical Pharmacology 155 (**2018**) 356–365. doi:10.1016/j.bcp.2018.07.014.

Maarten L J Doornbos, Ilse Van der Linden, Liesbeth Vereyken, Gary Tresadern, Adriaan P IJzerman, Hilde Lavreysen, Laura H Heitman. *Constitutive activity of the metabotropic glutamate receptor 2 explored with a whole-cell label-free biosensor.* Biochemical Pharmacology 152 (**2018**) 201–210. doi:10.1016/j.bcp.2018.03.026.

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Not part of this thesis:

Maarten L.J. Doornbos and Laura H. Heitman. *Protocol for a Label-free impedance-based whole cell assay to study GPCR pharmacology.* Manuscript submitted; invitation from Methods in Cell Biology.

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CURRICULUM VITAE

Maarten Doornbos was born in Leiden on the 10th of May in 1989. After graduating from pre-university education at the Stedelijk Gymnasium Leiden in 2007 he started studying Bio-Pharmaceutical Sciences at Leiden University. The bachelor was finished with a research internship at the division of Medicinal Chemistry under supervision of Dr. Annelien Zweemer. The project focused on the molecular pharmacology of diverse ligands of the CC chemokine receptor 2 (CCR2). In September 2011 Maarten started the master Bio-Pharmaceutical Sciences. He performed a 9-month research internship at the division of Medicinal Chemistry which comprised two projects that were supervised by Dr. João Carvalho and Dr. Julien Louvel. The first project focused on the synthesis of novel molecules to gain molecular understanding of hERG channel blockade. The project resulted in a publication in the Journal of Medicinal Chemistry. The second project was focused on the synthesis of novel antagonists for the Adenosine A_1 receptor. From February 2013 onwards Maarten performed a 6-month research internship at the division of Neuroscience Discovery at Janssen Research and Development in Beerse, Belgium under supervision of Luc Peeters and Dr. Hilde Lavreysen. There he worked on a project focused on the mapping of the allosteric binding pocket of the metabotropic glutamate receptor 2 ($mGlu_2$) using a receptor-mutagenesis approach. The results obtained in this project are part of a publication in Structure.

After obtaining his master degree in September 2013 he started as a PhD candidate at the division of Medicinal Chemistry under supervision of Dr. Laura Heitman and Prof. Dr. Ad IJzerman. The project was a joined effort with the division of Neuroscience Discovery at Janssen Research and Development and was funded by the Vlaams Agentschap Innoveren & Ondernemen. Throughout his PhD studies Maarten presented parts of the work described in this thesis at several national and international conferences. He was invited speaker at various occasions, including the FIGON Dutch Medicines Days 2016 and 2017.

From May to September 2017 he worked as interim assistant professor in the division of Medicinal Chemistry. Currently, Maarten works as project manager at Catalyze in Amsterdam.

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