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## **Targeting the adenosinergic system: Ligand binding kinetics and label-free assays for the study of SLC29A1 transporter and A2B adenosine receptor**

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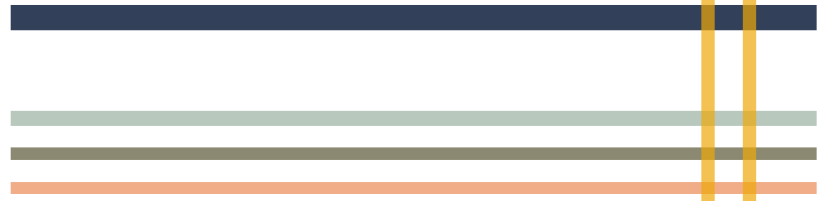


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Adenosine is an endogenous ligand which exerts its action by activating adenosine receptors (ARs), while its circulating levels are controlled via a variety of mechanism and proteins, amongst others the equilibrative nucleoside transporters (ENTs). Distortion of the adenosinergic tone is implicated in a multitude of pathophysiological conditions, thus numerous drug discovery efforts have been made to develop drugs targeting ARs and ENTs. Yet, there is only a limited number of drugs targeting these proteins on the market. Therefore, there is a pivotal need to develop novel concepts that allow us to increase our understanding of the mechanism of action at a molecular level, as well as physiologically relevant assays to evaluate drug candidates in early stages of drug discovery. Hence, this thesis focuses on exploring the concept of binding kinetics for two adenosinergic targets, *i.e.* the  $A_{2B}$ AR and ENT1 (SCL29A1), as well as to develop novel kinetic binding and label-free functional assays.

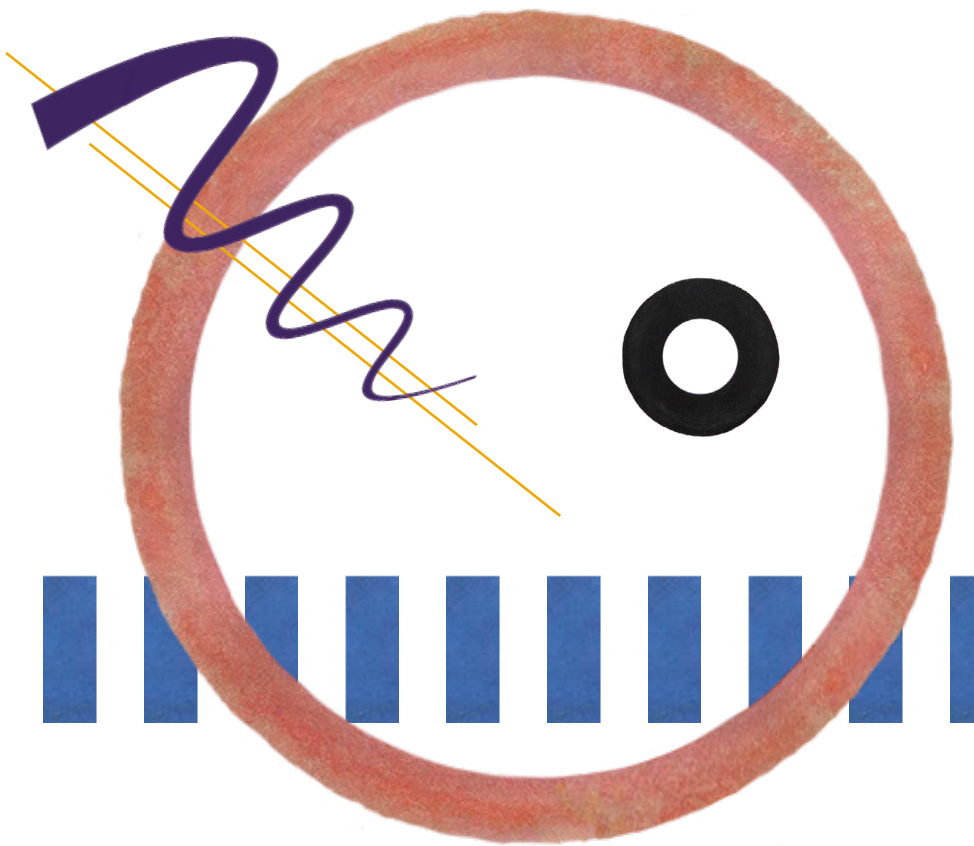
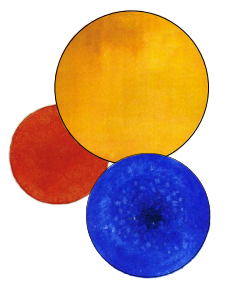
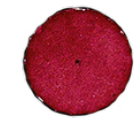
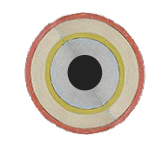


Targeting the adenosinergic system

Anna Vlachodimou

# Targeting the adenosinergic system

Ligand binding kinetics and label-free assays for the study of SLC29A1 transporter and  $A_{2B}$  adenosine receptor



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