

Oral presentation

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## New mouse models for the analysis of cGMP signalling

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The second messenger cGMP mediates beneficial and detrimental effects of nitric oxide and natriuretic peptides. Studies with conventional knockout mice showed that the cGMP-dependent protein kinase type I (cGKI) transduces many acute effects of cGMP, such as smooth muscle relaxation and inhibition of platelet aggregation. However, the short life expectancy of cGKI null mice precludes the analysis of long-term processes in adult mice. Recently, we have generated conditional tissue-specific cGKI knockout and rescue mice that can be studied throughout adulthood. These mouse models have uncovered previously unknown functions of cGMP/cGKI signalling in complex behavioural processes, such as object recognition, social discrimination and the regulation of sleep-wake activity. Moreover, a novel role of cGKI in erythrocyte death will be discussed.