

SFB 35 Colloquia in Membrane Transport

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"Patho-Genetics of Anxiety"

Twin studies propose a strong genetic contribution to the pathogenesis of anxiety disorders and panic disorder in particular with a heritability of about 50%. The present talk will give an overview of linkage and cytogenetic studies in panic disorder as well as association studies yielding support for several candidate genes contributing to the genetic risk for panic disorder such as the catechol-O-methyltransferase (COMT), the serotonin receptor 1A (5-HT_{1A}), the serotonin transporter (5-HTT) and neuropeptide Y (NPY) genes. Additionally, evidence for a gene-environment interaction between 5-HTT gene variation and life events, respectively, will be reported. On a system level, fMRI activation in brain regions critical for emotional and learning processes has been proposed as a promising intermediate phenotype for genetic studies in psychiatric disorders. Thus, recent imaging genetic findings with respect to the influence of COMT, 5-HT_{1A} and neuropeptide Y gene variants on neuronal activation correlates of emotional processing will be presented. Finally, pharmacogenetic studies in the field of anxiety suggest 5-HTT and NPY gene variants to drive inter-individual differences in treatment response to antidepressants in panic disorder as well as in anxious depression. These studies will be discussed with respect to their potential benefit in future efforts to develop an individually tailored therapy for patients with anxiety disorders.