FC01-06 - **THE DTNBP1 (DYSBINDIN-1) GENE VARIANT RS2619522 IS ASSOCIATED WITH VARIATION OF HIPPOCAMPAL GREY MATTER VOLUME IN HUMANS**

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Background and aims: DTNBP1, which encodes dysbindin-1, is one of the best-supported susceptibility genes for schizophrenia, and hippocampal volume reduction is one of the major neuropathological findings in schizophrenia. Consistent with these findings, dysbindin-1 has been shown to be diminished in glutamatergic hippocampal neurons in schizophrenic patients. The aim of this study was to directly investigate the effects of two single nucleotide polymorphisms of the DTNBP1 gene on regional brain volumes in human subjects.

Methods: 128 subjects participated in the study. All subjects were genotyped with respect to two single nucleotide polymorphisms of the DTNBP1 gene (rs2619522 and rs1018381) and underwent structural magnetic resonance imaging (MRI). MRI data were preprocessed and statistically analyzed using standard procedures as implemented in SPM5, in particular the voxel-based morphometry (VBM) toolbox.

Results: We found significant effects of the DTNBP1-SNP rs2619522 on regional brain volumes bilaterally in the hippocampus as well as in the anterior middle frontal gyrus and the intraparietal cortex. T/T homozygotes showed significantly lower grey matter volumes in these brain regions than carriers of the G allele.

Conclusions: Compatible with previous findings on a role of the dysbindin-1 gene in hippocampal functions as well as in major psychoses, the present study provides first direct in-vivo evidence that the DTNBP1-SNP rs2619522 is associated with variation of grey matter volumes bilaterally in the human hippocampus.

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