FKBP51, a risk factor and potential drug target for stress-related disorders

FKBP5, the gene encoding FKBP51, has repeatedly been associated in humans with numerous stress-related endophenotypes and with the risk to develop PTSD. Several animal models confirmed FKBP51 as a key regulator of stress responses. How FKBP51 enhances vulnerability to stress-related disorders or how affects neurobiological pathways to impinge on behavior is unknown.

Here, I will describe novel mechanistic findings from cellular and animal models on the role of FKBP51 in neurons and in stress-coping behavior. I will present SAFit1 and SAFit2, the first selective FKBP51 inhibitors, and their effects in vivo. Finally, I will discuss the prospect of FKBP51 inhibitors as novel class of antidepressants and possible strategies for patient stratification.

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