Medical Xpress

Restoring emotional memory in a rat model of major depressive disorder

January 18 2011

Deficits in emotional memory processing associated with major depressive disorder (MDD) are shown to be reversible by distinct antidepressants, shows researchers at Karolinska Institutet in an animal study.

The findings are published online in *Molecular Psychiatry*, and may provide a target for future antidepressant medications with procognitive actions.

Cognitive impairments, such as diminished concentration or indecisiveness, are common in patients with MDD, but these symptoms have been difficult to model in animal studies.

Per Svenningsson, Therese Eriksson and colleagues determined that the rat depression model, Flinders Sensitive Line (FSL), exhibit comparable cognitive dysfunctions, such as impaired emotional memory processing, and fail to avoid an unpleasant environment. After chronic treatment with the SSRI escitalopram - but not the tricyclic antidepressant nortriptyline - memory performance was restored.

The authors identified the molecular nodal points whereby the SSRI was effective, which could provide a target for future antidepressant medications with procognitive actions.

More information: Emotional memory impairments in a genetic rat model of depression: involvement of 5-HT/MEK/Arc signaling in

restoration

Molecular Psychiatry, online 18 januari 2011, DOI: MP.2010.131