Restoring emotional memory in a rat model of major depressive disorder

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The deficits in emotional memory processing associated with major depressive disorder (MDD) are shown to be reversible using certain types of antidepressant in an animal study published online this week in Molecular Psychiatry.

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 Flinders Sensitive Line rats, a rat model of depression, exhibit comparable cognitive dysfunctions, such as impaired emotional memory processing, when learning to avoid an unpleasant stimulus. 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.

Author contacts:
Per Svenningsson (Karolinska Institutet, Stockholm, Sweden)

Please note this author is travelling on 14 January.
Tel: +46 8 51774614 or tel: +70 7498522; E-mail: per.svenningsson@ki.se

Therese Eriksson (Karolinska Institutet, Stockholm, Sweden)
Tel: +46 8 52487926; E-mail: therese.m.eriksson@ki.se

Editorial contact:
Julio Licinio (The Australian National University, Canberra, Australia)
Tel: +61 2 6125 2550; E-mail: julio.licinio@anu.edu.au

Media contact:
Rebecca Walton (Press Officer, Nature London)
Tel: +44 20 7843 4502; E-mail: r.walton@nature.com

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