

Molecular switch affects panic disorder

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Panic disorder sufferers will tell you the attacks are some of the most sudden, frightening and uncomfortable experiences ever. But what makes some people susceptible to these attacks and others not? Studies of twins point to hereditary factors playing a key role in 40% of cases. How genes are involved in panic disorder risk is unclear, however. A European group of researchers has implicated one type of molecular switch, short or micro ribonucleic acid molecules (miRNAs) in panic disorder. The research, funded in part by the EU, is presented in the journal *Biological Psychiatry*.

Past studies found that variations in an increasing number of genes influenced the risk for [panic disorder](#). But the magnitude of the impact of each single gene is not large.

Researchers questioned whether molecular 'switches' could be influencing how groups of genes function in a coordinated fashion. What they discovered could shed new light on the genetics of panic disorder. In this latest study, researchers from Estonia, Spain, Finland and the UK found that one type of [molecular switch](#), miRNAs, impacts panic disorder.

RNA is the immediate product of deoxyribonucleic acid (DNA) , and proteins are the most commonly discussed products of RNA. This is where the common saying 'DNA makes RNA and RNA makes protein' comes from. But miRNAs are tiny bits of RNA that bind to DNA and control gene expression. Experts say several miRNAs are affected by various effects of influence gene expression.

'Increasing evidence supports that miRNAs are major contributors to phenotypic diversity and might thus have a role in the pathophysiology of several disorders,' the authors write. 'MicroRNAs have already been implicated in disorders involving the central nervous system, such as Alzheimer's disease, Parkinson's disease, schizophrenia, and aggressive human behaviour, indicating that miRNAs are good candidates for the [genetic susceptibility](#) to [psychiatric disorders](#).'

For this latest research study, the team performed case-control studies in three different populations: Estonia, Spain and Finland. The scientists discovered no less than 4 miRNAs that could be impacting the pathophysiology of panic disorder.

'These data provide important new evidence that variation in genes coding for miRNAs may coordinate the involvement of a number of risk [genes](#) and thereby contribute to the development of panic disorder,' says Dr John Krystal, Editor of Biological Psychiatry.

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Provided by Cordis

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