Hermona Soreq, Biol syst Open Access 2016, 5:2 (Suppl)
http://dx.doi.org/10.4172/2329-6577.C1.005

Non-coding RNAs: An integrative biology hope for anxiety-related syndromes

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The discovery of non-coding RNAs revolutionized our view of how the brain works and holds great promise for rapid progress in the run for therapeutics of anxiety-related diseases. We now know, unlike previous beliefs that our DNA includes several families of non-coding genes with regulatory functions; that these functions are differentially impaired under diverse anxiety reactions and most importantly, that the new genes can serve as scaffolds for developing new diagnostic tools and synthesizing novel therapeutics. I will discuss the family of microRNAs, tiny blockers of brain signaling pathways that govern cognition and anxiety reactions and will focus on those microRNAs that malfunction in mental diseases and their target genes with a special emphasis on the pathway of cholinergic signaling.

Biography

Hermona Soreq was trained at The Weizmann Institute of Science and the Rockefeller University. In 1980, she has joined the Weizmann Institute as a Senior Lecturer and joined the Faculty of The Hebrew University in 1986. She pioneered the application of molecular biology and neurogenomics to the study of cholinergic signaling with a recent focus on the evolutionary and functional aspects of brain microRNA regulation over cholinergic coding genes and pseudogenes under stress and in mental diseases. She has authored over 300 publications and won Advanced ERC Award and Israeli I-Core Center of Excellence Award on Mass Trauma.

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