



Optogenetics reveals a role for accumbal medium spiny neurons expressing dopamine D2 receptors in cocaine-induced behavioural sensitization

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Abstract

It is known from previous studies that dopamine neurons (DA) of the ventral tegmental area (ATV) stimulate the middle spiny GABAergic neurons (MSN) of the nucleus Accumbens (NAc), which can express dopamine D1 receptors (D1R) or dopamine D2 receptors (D2R), and whose activation also inhibits its subsequent targets, which will also be GABAergic. The MSN-D1R and MSN-D2R subpopulations act differently on addictive behavior. The objective of this study is to analyse through optogenetics, the role of the D2R-MSN of the NAc in the sensitization of behavior induced by cocaine. To do this, photostimulation of D2R-MSN is performed in brain slices. The role of D2R-MSN in cocaine sensitization and withdrawal is also known from in vivo studies.

Biography

Ana Maria Morón Usero completed his biology degree at the Autonomous University of Madrid and a master's degree at the Complutense University of Madrid. Also, he had a scientific disseminator on social networks and YouTube, for two years like Ammu Neuroscience and Biology. Also, he is working in a book publisher as a digital editor at Oxford University Press.



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