

Cotinine: A Therapy for Memory Extinction in Post-traumatic Stress Disorder

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Post-traumatic stress disorder (PTSD) is a mental disorder that may develop after exposure to exceptionally threatening or unescapable horrifying events. Actual therapies fail to alleviate the emotional suffering and cognitive impairment associated with this disorder, mostly because they are ineffective in treating the failure to extinguish trauma memories in a great percentage of those affected. In this review, current behavioral, cellular, and molecular evidence supporting the use of cotinine for treating PTSD are reviewed. The role of the positive modulation by cotinine of the nicotinic acetylcholine receptors (nAChRs) and their downstream effectors, the protection of astroglia, and the inhibition of microglia in the PTSD brain are also discussed.

Cotinine

Extinction

Fear

Inflammation

Nicotinic receptor

Post-traumatic stress disorder

cotinine

nicotinic receptor

animal

drug effect

human

memory

metabolism

nerve cell plasticity

posttraumatic stress disorder

psychology

reinforcement

Animals

Cotinine

Extinction, Psychological

Humans

Memory

Neuronal Plasticity

Receptors, Nicotinic

Stress Disorders, Post-Traumatic