An new approach in the treatment of alcoholism and substance abuse

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Technology description

Summary

MARKETS ADDRESSED:
Presented is a potentially new treatment approach for alcohol dependency and substance abuse. It is expected that drug repositioning may short-circuit the development cycle by leveraging currently approved or off-patent drugs to achieve weighted A2/D2 inhibition.

Advantages

To date, most alcohol and substance-abuse drugs have been plagued by moderate efficacy and a lack of specific target mechanisms. A new approach is proposed involving weighted inhibition of the brain's alpha 2 noradrenergic receptors (A2) and dopamine D2 receptors (D2). Lowered dependency on alcohol has been observed in alcoholic schizophrenics using clozapine, an anti-psychotic that represents an A2/D2 dual inhibitor balance. The unexpected effects of clozapine on alcohol abuse were further validated using a selected strain of alcohol-preferring hamsters, whereby the treatment group experienced an 88% reduction in alcohol consumption compared to controls. It is proposed that clozapine reduces alcohol dependency by affecting the dopamine-mediated reward pathways, and that modulation of A2/D2 inhibition may lead to novel pharmaceutical compositions.

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