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**[Blocking dopamine receptor to curb nicotine addiction](#)**

DOI: 10.1038/npp.2012.171

A class of drugs that reduces the craving for nicotine in nicotine-addicted rats is reported in a  
study published online this week in *Neuropsychopharmacology*. The findings suggest that this  
class of drug, which blocks a specific subtype of dopamine receptor in areas of the brain, could  
help current smokers treat tobacco addiction.

Previous research has shown that the nicotine contained in tobacco smoke increases the release of the neurotransmitter dopamine in the ventral striatum, midbrain, and pallidum, which are thought to play a central role in tobacco habits.

Manolo Mugnaini and colleagues tested GSK598809, a drug that blocks D<sub>3</sub> dopamine receptors, on rats and baboons, creating a model from this data to determine an appropriate dosage for humans. They subsequently treated overnight abstinent smokers with GSK598809 and found that it partially alleviated craving. More importantly, brain imaging studies suggested that higher doses of GSK598809 than those used in this study may be even more effective at reducing tobacco craving in current smokers.

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