Neuropeptide Y rs16147 single nucleotide polymorphism is associated with heavy drinking and severity of alcohol dependence

Derick Vergne  
*Medical University of South Carolina*

Raymond Anton  
*Medical University of South Carolina*

Konstantin Voronin  
*Medical University of South Carolina*

Abraham Tiffany  
*Medical University of South Carolina*

Hugh Myrick  
*Medical University of South Carolina*

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Authors
Derick Vergne, Raymond Anton, Konstantin Voronin, Abraham Tiffany, Hugh Myrick, Caleb Canders, Garrick Klaybor, Patrick Randall, and Joe Schacht
Neuropeptide Y rs16147 single nucleotide polymorphism is associated with heavy drinking and severity of alcohol dependence.

**Discussion/Future Directions**

**Neuropeptide Y rs16147**

Since this genotype is purported to have independent effects on anxiety and on alcohol consumption, our results suggest that NPY genotype to be associated with alcohol severity is partially dependent on the presence of anxiety. Anxiety and alcohol consumption were assessed by evaluating drinkers' responses to stress. Our results suggest that NPY genotype is associated with heavy drinking and anxiety, and that this association is mediated by the presence of anxiety.

**Future studies will clarify the role of the NPY system on drinking behavior and the nature of the relationship with stress/anxiety to modulate this behavior. This aim could be achieved by combining brain-imaging paradigms and genetic differences in clinical investigation and by evaluating drugs that work on the NPY system in clinical laboratory and treatment trials.

**Introduction**

A wide array of preclinical animal work has established a link between a malfunctioning NPY system, anxiety, depression and alcohol dependence. In animals, neuropharmacological and neuroanatomical studies have consistently shown the NPY system to be dysregulated in limbic areas strongly related to the stress system, and 2) in behavioral animal models of excessive alcohol drinking. In humans the 485C>T rs16147 SNP in the NPY promoter region, has been shown to increase plasma neuropeptide Y. We wished to evaluate the relationship between NPY genotype and alcohol consumption as well as to investigate whether this relationship is influenced by levels of anxiety.

**Subjects**

-Subjects (average age about 29, 80% male, 90% Caucasian, alcohol) recruited from advertisements and assessed prior to participation in a back-lab and brain imaging study.

**Methods**

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**NPY Genotype**

**Discussion/Future Directions**

Since NPY is expressed in areas of the brain involved with reward, it is important to understand the role of the NPY system on drinking behavior and the nature of the relationship with stress/anxiety to modulate this behavior. This aim could be achieved by combining brain-imaging paradigms and genetic differences in clinical investigation and by evaluating drugs that work on the NPY system in clinical laboratory and treatment trials.

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**Results**

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