Researchers at the University of South Florida have developed a novel method for the treatment of suicidal ideation or behavior in a subject by decreasing endogenous nicotinic acetylcholine receptor (nAChR) activity.

Suicide and suicidality are major and growing public health concerns. Since 1950, suicide related deaths have increased 49% in males and 33% in females. In the year 2015, more than 32,000 people committed suicide. Moreover, the World Health Organization estimates that this number will increase to approximately 1.53 million in 2020. Additional reports show that there is an average of one suicide death every 20 seconds and one suicide attempt every one to two seconds. At this time, there are no FDA approved medications for the treatment of suicidality. These alarming statistics highlight the need for such a treatment.

USF researchers have developed a novel method of treating suicidality by administering an effective amount of mecamylamine or TC-5214 to at-risk patients. This treatment option aims to decrease nAChR activity in the subject via either an immediate release formulation or a controlled-release formulation. This then lowers the patient’s likelihood of experiencing suicidal thoughts or behaviors. The proposed subject must not be suffering from major depressive disorder to be a candidate for this treatment. However, this novel treatment option may be used on patients also suffering from many additional mental health disorders such as post-traumatic stress disorder (PTSD), bipolar disorder, panic disorder, schizophrenia, Huntington’s disease, early Alzheimer’s disease, and Parkinson’s disease.

**ADVANTAGES:**
- Effective nRChR activity reduction
- Safe for many mental health disorders
- Multiple drug release options
- Effective against drug-induced and endogenous suicidal behaviors

A Novel Method to Reduce Suicidal Ideation or Behavior

**Structure of nAChR Antagonist INVERSINE® (Mecamylamine HCl), Which is a Registered Trademark of Targacept, Inc.**

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