

Reported December 18, 2009

## Uncovering the Mystery of Anti-Psychotic Drugs in the Brain

(Ivanhoe Newswire) -- Scientists have discovered how anti-psychotic drugs used to treat schizophrenia affect the living brain.

Delusions and hallucinations, along with difficulty paying attention and recalling information, are prevalent symptoms of schizophrenia, which can interfere with daily life. A class of drugs called atypical neuroleptics is most commonly prescribed to treat the disorder, but how they affect brain chemistry was never fully understood.

The compound releases the neurotransmitter acetylcholine, but they were also shown to block a certain type of receptor on the receiving cell's surface, which would block the message. For this reason, scientists were stumped as how they were effective.

To find out, a team at the University of California, San Diego, designed biosensors that change color when acetylcholine latches to a particular type of receptor, which allowed them to see when that receptor received the chemical message. Using rats as subjects, they found the drugs' receptor-blocking overrides the increase in acetylcholine.

"It's a world of signaling between cells that we were blind to before," David Kleinfeld, a professor of physics and member of UC San Diego's center for neural circuits and behavior, was quoted as saying.

Source: *Neuroscience*, published online December 13, 2009

**[webdoctor@ivanhoe.com](mailto:webdoctor@ivanhoe.com)**  
Copyright © 2009 Ivanhoe Broadcast News, Inc.  
2745 West Fairbanks Avenue  
Winter Park, Florida 32789  
(407) 740-0789

P.O. Box 865  
Orlando, Florida 32802