Reviewer's report

Title: An olfactory 'stress test' may detect preclinical Alzheimer's disease.

Version: 3 Date: 26 March 2012

Reviewer: Richard L Doty

Reviewer's report:

The authors have greatly improved the paper and the rationale for their study is much clearer. While, as they acknowledge, a control group would have been preferable, I think their finding in light of the available literature is of enough interest to support the publication of this work. They now acknowledge in detail this limitation of the lack of a control group in the discussion section of the work.

It is not clear that the authors are aware of the following paper:
Li,Y.R. & Matsunami,H. Activation state of the M3 muscarinic acetylcholine receptor modulates mammalian odorant receptor signaling.
Sci Signal. 4, ra1 (2011). This may relate to the effects of administering atropine into the nose and they may wish to incorporate this study into their discussion section.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.