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postsynaptic currents via whole-cell patch-clamp recordings. The results suggest that glutamate neurotransmission might be vulnerable to Alzheimer's disease, and may also be a therapeutic target.

**Effects of saporin-induced lesions of three arousal populations on daily levels of sleep and wake**

Blanco-Centurion C, Gerashchenko D, Shiromani PJ  
*J Neurosci* 27(51):14041-14048, 2007.

Orexin neurons in the basal forebrain, tuberomammillary nucleus (TMN), and locus ceruleus (LC) are thought to regulate arousal. Rats were injected with 2 or 3 of the following targeted conjugates: anti-DBH-SAP (Cat. #IT-03), 0.25 µl bilateral injections of 1 µg/µl into the LC; orexin-SAP (Cat. #IT-20), 0.25 µl injection of 0.25 µg/µl into the TMN; 192-IgG-SAP (Cat. #IT-01), 3 µl injection of 2 µg/µl into the lateral ventricle. Small differences were observed in sleep architecture, but the data does not support the traditional hypothesis that these 3 areas of the brain are essential links in the control of wake levels.



**Elimination of rat spinal substance P receptor bearing neurons dissociates cardiovascular and nocifensive responses to nicotinic agonists**

Khan IM, Wart CV, Singletary EA, Stanislaus S, Deerinck T, Yaksh TL, Printz MP  
*Neuropharmacology* [Epub Oct 17](2007.

Nocifensive behavior and cardiovascular responses due to nicotinic agonists may be sustained by substance P positive primary afferents. Rats received 10 µl intrathecal injections of 10 µM SP-SAP (Cat. #IT-07), unconjugated saporin (Cat. #PR-01) was used as a control. Lesioned animals displayed reduced nocifensive response to nicotinic agonists, but cardiovascular responses were not

**Targeting Topics:**

changed. Tachycardia and pressor responses were enhanced upon administration of cytisine and epibatidine.

**Respiratory plasticity in response to changes in oxygen supply and demand**

Bavis RW, Powell FL, Bradford A, Hsia CCW, Peltonen JE, Soliz J, Zeis B, Fergusson ED, Fu Z, Gassmann M, Kim CB, Maurer J, McGuire M, Miller BM, O'Halloran KD, Paul RJ, Reid SG, Rusko HK, Tikkanen HO, Wilkinson KA  
*Integ and Comp Biol* 47(4): 532-551, 2007

This paper covers data presented at the First Annual Congress of Respiratory Biology. One of the subjects discussed is the use of SP-SAP (Cat. #IT-07) to elucidate the role of central chemoreceptors in the nucleus tractus solitarius during ventilatory acclimitization to hypoxia.

Please visit  
[www.ATSBio.com](http://www.ATSBio.com)  
 to see a complete list of references.

**Targeting Teaser Winners**

The solution to the puzzle was:



- Across:
1. SAP
  3. CRICK
  5. LANOLIN
  7. BASEBOARD
  9. ELASTIC
  10. ROUGE
  11. RED

- Down:
1. SOLUBLE
  2. PANES
  3. CALIBRATE
  4. ION
  6. INDUCED
  8. ALTER
  9. EMU



Congratulations to the puzzle solvers from our last newsletter. Each winner receives \$100 credit towards research product purchases from Advanced Targeting Systems.



WINNERS: Mason Hartman- Nordstrom, Men's Shoe Dept, Clackamas, OR \* YanYan Hong- City of Hope Natl Med Center, Surgical Research Dept, Duarte CA \* Peter Yuen-NIH, NIDDK, Bethesda MD \* Angela Repoli- Panacea Pharmaceuticals Inc, Gaithersburg MD \* Michael Garrick- SUNY, Dept of Biochemistry, Buffalo NY \* Thea Marlinga- Libertyville, IL \* Vivian Lee- Medical College of Wisconsin, Dept of Pediatrics, Milwaukee WI \* Bruce Pappas- Carleton University, Ottawa, ON CANADA \* Seto Chice- SUNY HSC at Brooklyn, Brooklyn NY \* Robert Speth- University of Mississippi, School of Pharmacy, University MS