editorial

Probing the brain with DNA chips .................................................. 1

news & views

Silent synapses: I can’t ‘hear’ you! Could you please speak aloud? ........ 3
Antonio Malgaroli
> SEE ARTICLE, PAGE 24

A thorny question: how does activity maintain dendritic spines? .......... 5
Per Andersen and Anne Figenschou Soleng
> SEE ARTICLE, PAGE 44

Seeing smells: imaging olfactory learning in bees .......................... 7
Alexander Borst
> SEE ARTICLE, PAGE 74

Predicting the visual world: silence is golden ............................... 9
Christof Koch and Tomaso Poggio
> SEE ARTICLE, PAGE 79

scientific correspondence

Orbitofrontal cortex is activated during breaches of expectation in tasks of visual attention .................................................. 11
A C Nobre, J T Coull, C D Frith and M M Mesulam

articles

Protein phosphatase 1 modulation of neostriatal AMPA channels: regulation by DARPP-32 and spinophilin ................................. 13
Z Yan, L Hsieh-Wilson, J Feng, K Tomizawa, P B Allen, A A Fienberg, A C Nairn and P Greengard
Cyclic GMP pathway is critical for inducing long-term sensitization of nociceptive sensory neurons.

M R Lewin and E T Walters

Cyclic AMP induces functional presynaptic boutons in hippocampal CA3–CA1 neuronal cultures.

I Ma, L Zablow, E R Kandel and S A Siegelbaum

Selective acquisition of AMPA receptors over postnatal development suggests a molecular basis for silent synapses.

R S Petralia, J A Esteban, Y-X Wang, J G Partridge, H-M Zhao, R J Wenthold and R Malinow

Regulation of morphological postsynaptic silent synapses in developing hippocampal neurons.

D Liao, X Zhang, R O’Brien, M D Ehlers and R L Huganir

Miniature synaptic events maintain dendritic spines via AMPA receptor activation.

R A McKinney, M Capogna, R Dürr, B H Guthwiler and S M Thompson

Slowing of axonal transport is a very early event in the toxicity of ALS-linked SOD1 mutants to motor neurons.

T L Williamson and D W Cleveland

Neurological dysfunctions in mice expressing different levels of the Q/R site-unedited AMPAR subunit Glu-B.

D Feldmeyer, K Kask, R Brusa, H-C Kornau, R Kolhekar, A Rozov, N Burnashev, V Jensen, O Hvalby, R Sprengel and P H Seeburg

Spread of dendritic excitation in layer 2/3 pyramidal neurons in rat barrel cortex in vivo.

K Svoboda, F Helmchen, W Denk and D W Tank

Associative learning modifies neural representations of odors in the insect brain.

T Faber, J Joerges and R Menzel

Predictive coding in the visual cortex: a functional interpretation of some extra-classical receptive-field effects.

R P N Rao and D H Ballard

Dissociation of visual, motor and predictive signals in parietal cortex during visual guidance.

E N Eskandar and J A Assad

Enhanced recognition memory following vagus nerve stimulation in human subjects.

K B Clark, D K Naritoku, D C Smith, R A Browning and R A Jensen