

# PROTEOMICS

## Supporting Information for Proteomics

**DOI 10.1002/pmic.200700742**

Marcus Bode, Martin Irmeler, Manuela Friedenberger, Caroline May, Klaus Jung,  
Christian Stephan, Helmut E. Meyer, Christiane Lach, Reyk Hillert,  
Andreas Krusche, Johannes Beckers, Katrin Marcus and Walter Schubert

**Interlocking transcriptomics, proteomics and toponomics technologies for  
brain tissue analysis in murine hippocampus**

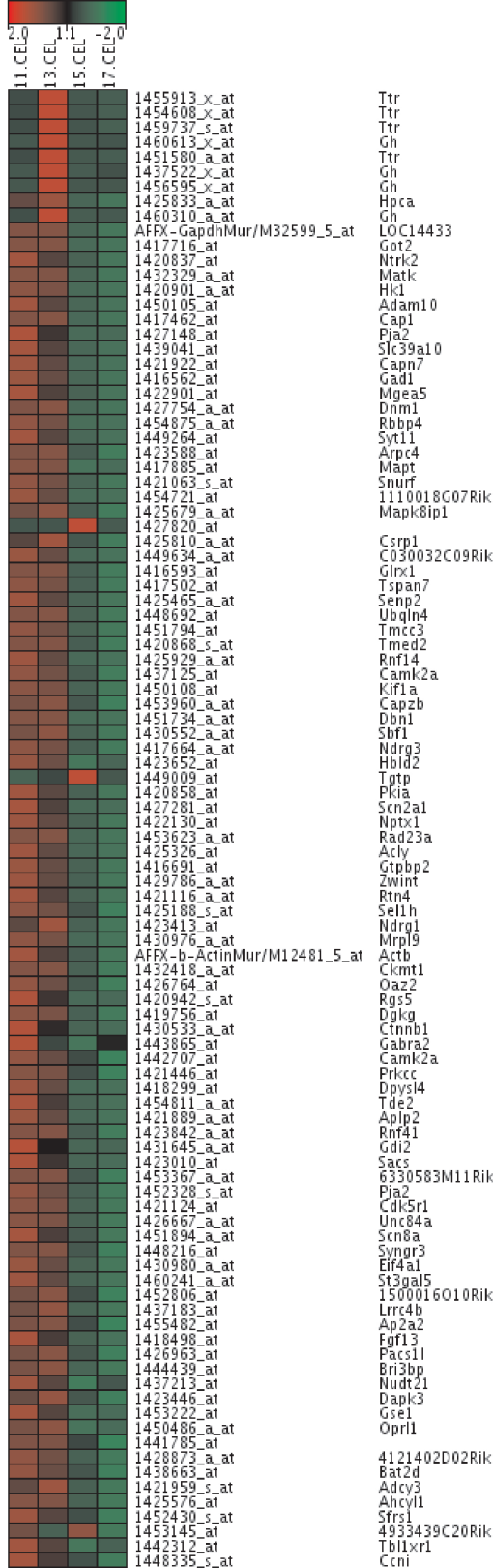
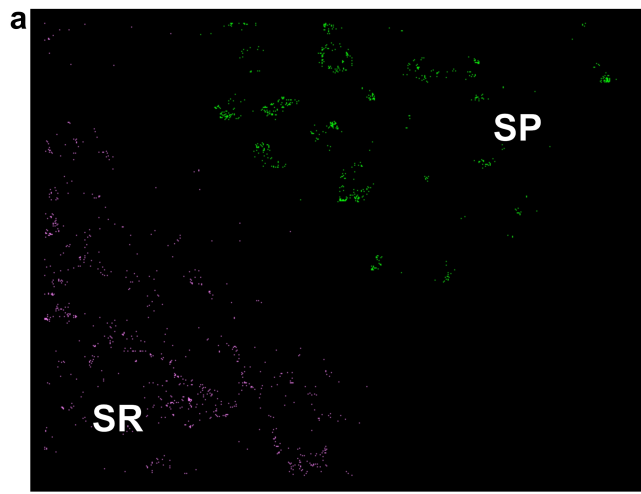
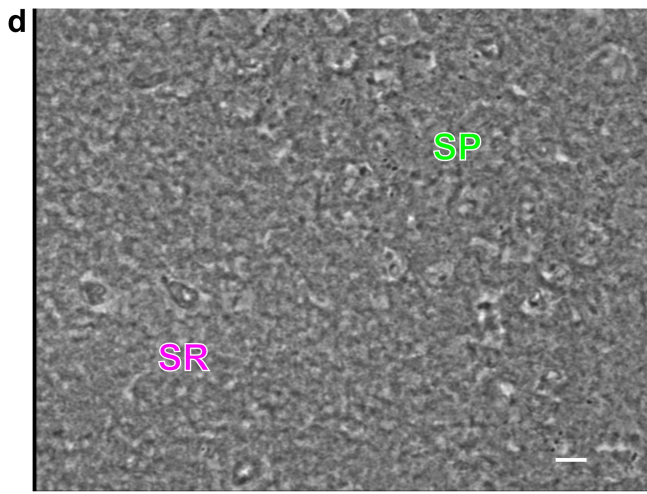
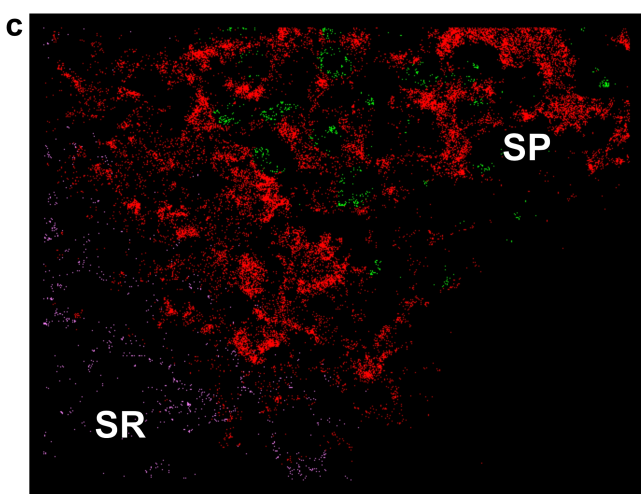
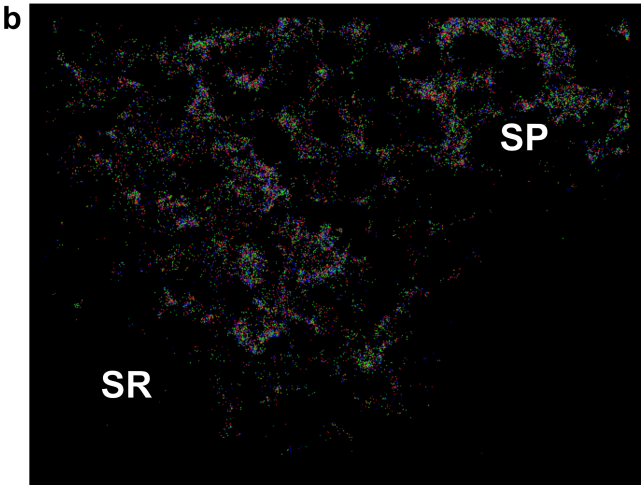


Figure 1S



■ CMP104    ■ CMP109



**molecules / moiety recognised**

- 1 Apolipoprotein E
- 2 CAT
- 3 ConA
- 4 GAP43
- 5 GluR1
- 6 GluR2
- 7 GluR5
- 8 GluR23
- 9 Grip1, ct
- 10 Internexin alpha
- 11 mGluR5
- 12 NEFHp
- 13 NeuN
- 14 Neurofilament
- 15 NMDR1
- 16 nNOS
- 17 NR2A
- 18 NR2B
- 19 Prop. lig.
- 20 Synapsin
- 21 Synaptophysin
- 22 UBE1

**molecules / moiety recognised**

CMP	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
<span style="color: magenta;">■</span>	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
<span style="color: green;">■</span>	0	0	0	1	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0

Figure 2S

## Supporting Information material

### Legend to Supporting Information figures

**Fig. 1S.** Heat map of transcripts with the highest variation. The expression values of the top100 probesets with the highest coefficient of variation are shown and the corresponding gene symbols are indicated. Red/green indicates a higher/lower expression level in four individual wild type animals (normalised for each gene).

**Fig. 2S.** This figure relates to Fig. 5 of the manuscript. (a) To illustrate and specify the hippocampal location of two single CMPs, the CMPs 104 (purple) and 109 (green), were selected out of 155,681 CMPs in total. Note (panel below) that CMP 104 displays a microprotein cluster consisting of two colocalised proteins (Apolipoprotein E and NMDR1, =1, each) while 20 other neural / synaptic molecules are anti colocalised (=0); CMP 109 displays a larger cluster comprising 3 synaptic proteins (GAP43, GluR1, GluR2), which colocalise with cellular markers of the pyramidal cells (NeuN and Prop. Lig.) indicating presence of corresponding synapses in very close proximity to neuronal cell bodies (putative axosomatic synapses in the stratum pyramidale, SP, of the hippocampus). (b) Visualization of CMPs with a frequency fewer than 200 pixels (different colours) in the identical tissue section and visual field. (c) Transformation of the multi-coloured pixels of (b) into one colour (red) plus superimposition with the CMPs of (a). Note that the locations of all these CMPs are mutually exclusive and thus specify different functional territories in hippocampus CA3 region. (d) Corresponding phase contrast image of the identical field, for morphological orientation: SP (stratum pyramidale), SR (stratum radiale). Bar 10  $\mu\text{m}$ .