

VGLUT2 functions as a differential marker for  
hippocampal output neurons

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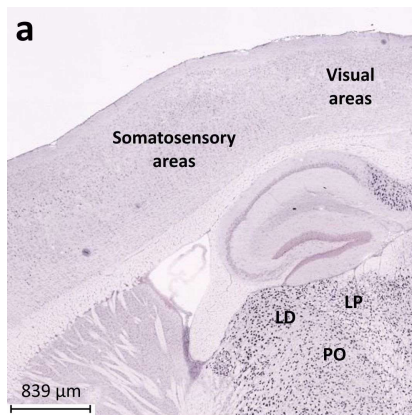
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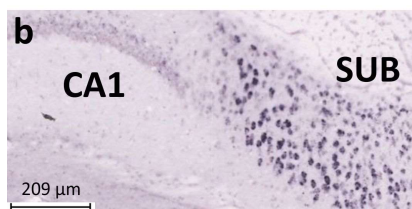
## Supplementary Figure 1: Gene expression



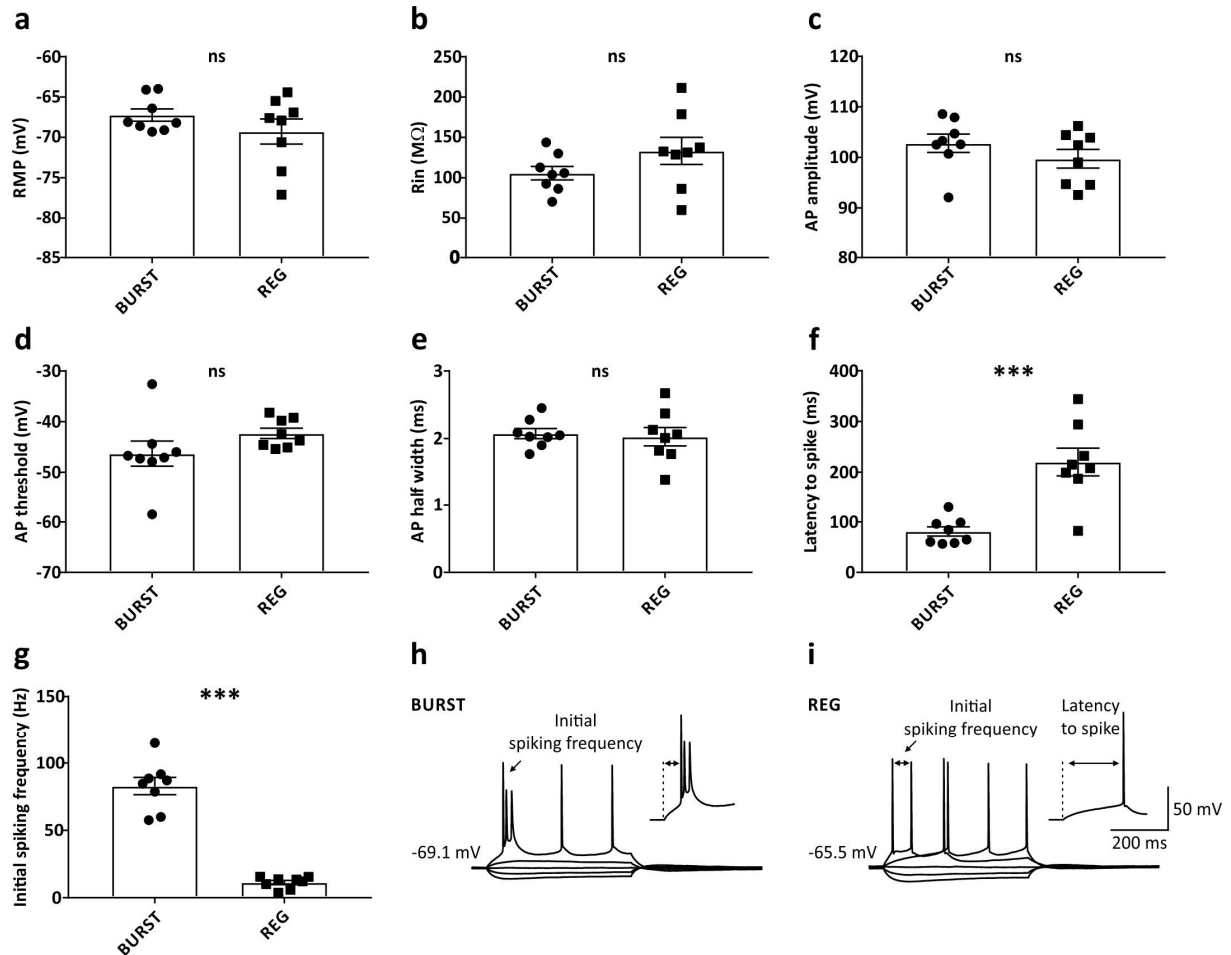
Gene expression of Gene Slc17a6 (solute carrier family 17 (sodium-dependent inorganic phosphate cotransporter), member 6, alias VGLUT2 – vesicular glutamate transporter). In-situ hybridization modified from the Allen Brain Atlas repository (<http://mouse.brain-map.org/gene/show/80230>). Sagittal slice.

**a**, No expression of VGLUT2 in the visual and the somatosensory areas.

**b**, Enlargement of **a**. Strong expression in the subiculum (SUB), but no labeled neurons in area CA1 of the hippocampus. Abbreviations: LD: Lateral dorsal nucleus of the thalamus; LP: Lateral dorsal nucleus of the thalamus (LP); PO: Posterior complex of the thalamus.

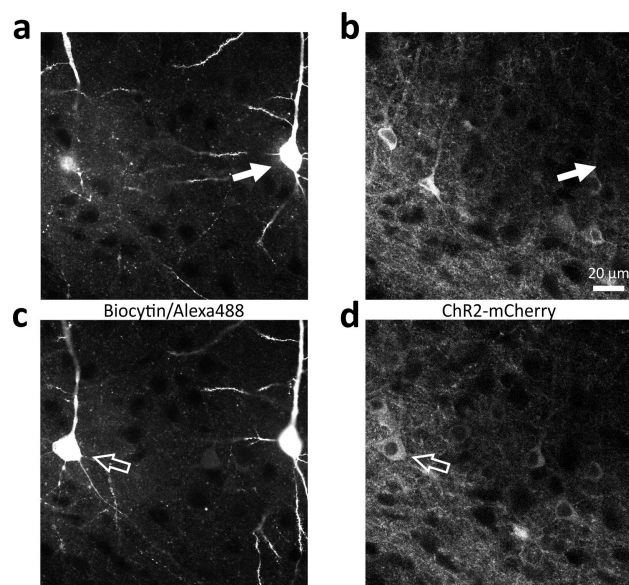


Supplementary Figure S2: Intrinsic electrophysiological properties of subicular burst- (BURST) and regular-firing (REG) cells



**a - g**, Eight randomly selected neurons were analysed for both cell types (BURST and REG). **h** and **i**, Example traces; current injected in 40 pA steps from -80 pA to 80 pA.

### Supplementary Figure S3: Single confocal plan



**a**, Single confocal plan (1  $\mu$ m) of two biocytin-filled subicular pyramidal neurons (Alexa 488). **b**, Single confocal plan of ChR2-mCherry-labelled infected neurons. Please note that the biocytin-filled neuron is negative for mCherry (regular firing neuron; closed arrow). **c**, Subicular burst-firing cell, which is positive for mCherry (open arrow; **d**).