



**S4 Fig. Injections sites and expression in pyramidal neurons**

**(A)** ChR2 or td-tomato was unilateral delivered into the left IL, optical fibers were placed in the IL and optical stimulation with blue (473 nm) light was restricted to the IL. **(B)** Confocal images showing expression of ChR2 (left, yellow) and td-tomato (right, red) in the IL. Cell nuclei are marked with DAPI (blue). Scale bar 1mm. **(C)** Insets from b showing high magnification of the IL region. Scale bar 150 $\mu$ m. Cell nuclei are marked with DAPI (blue) **(D)** Top row, Colocalization of ChR2 (yellow) with pyramidal neurons (CamKII in blue). Scale bar 150 $\mu$ m. Bottom row, high magnification of above confocal images showing in detail the injected and non-injected side. Scale bar 100 $\mu$ m. Arrow heads indicate exemplarily double-positive cells. **(E)** Top row, ChR2 (yellow) is not expressed in GABAergic neurons (Gad67 in green). Scale bar 150 $\mu$ m. Bottom row, high magnification of above confocal images showing in detail the injected and non-injected side. Scale bar 100 $\mu$ m. IL infralimbic cortex, PL prelimbic cortex.