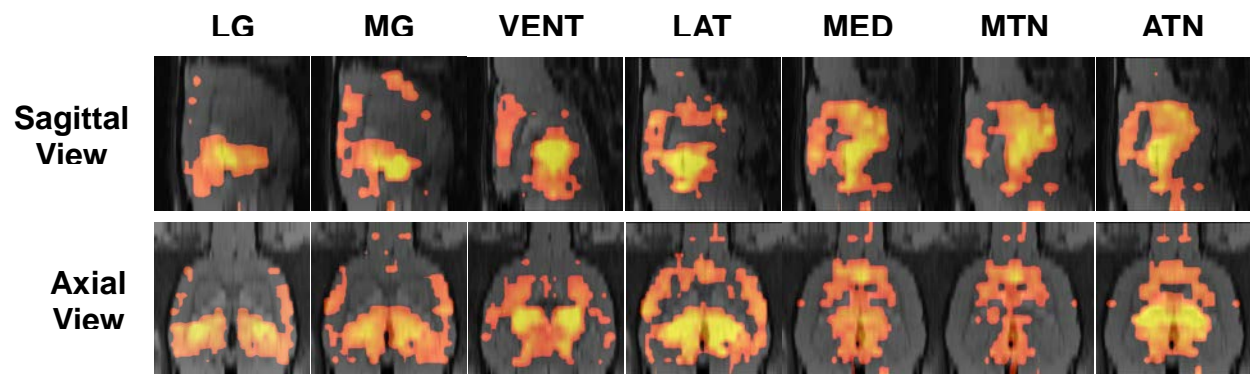
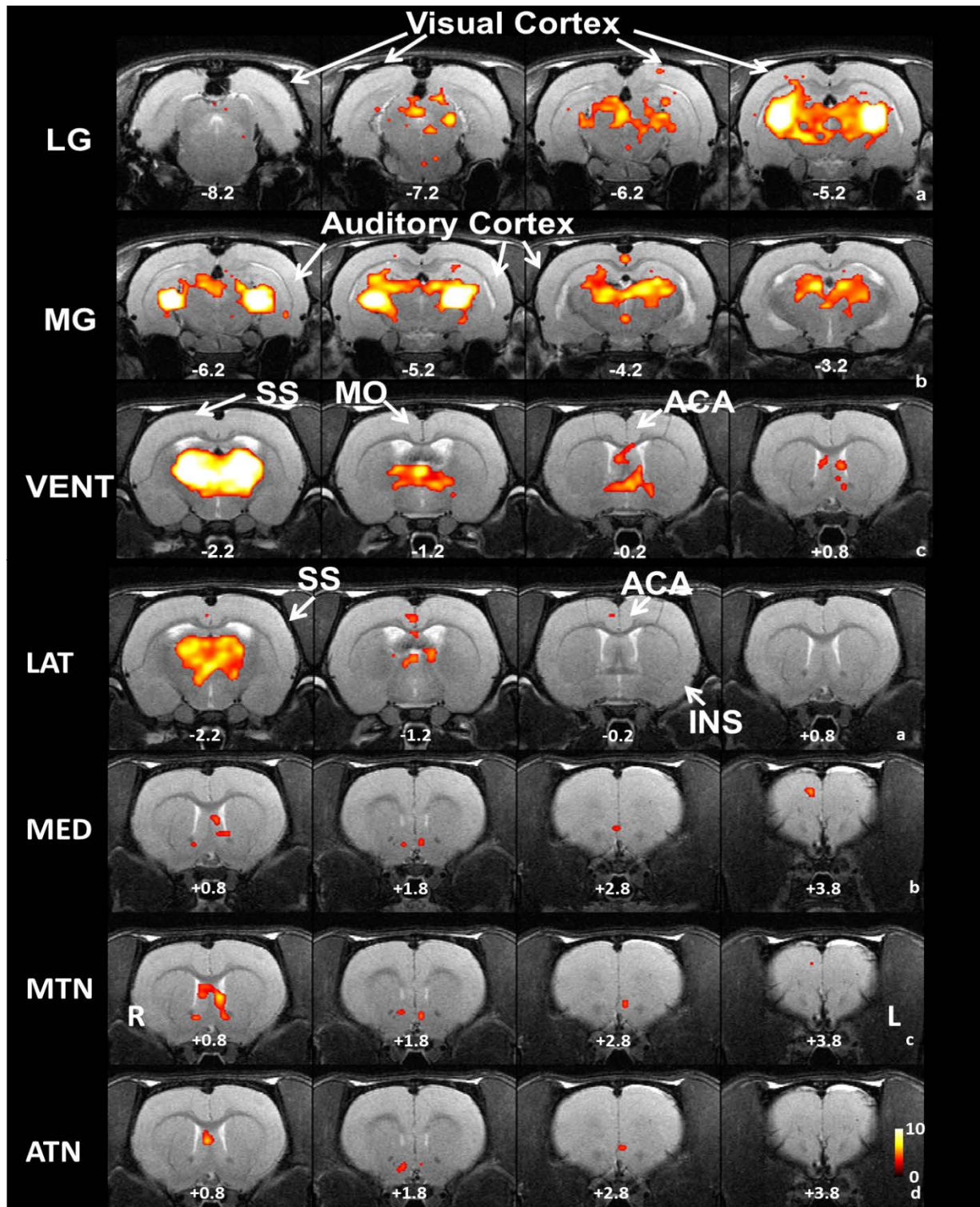


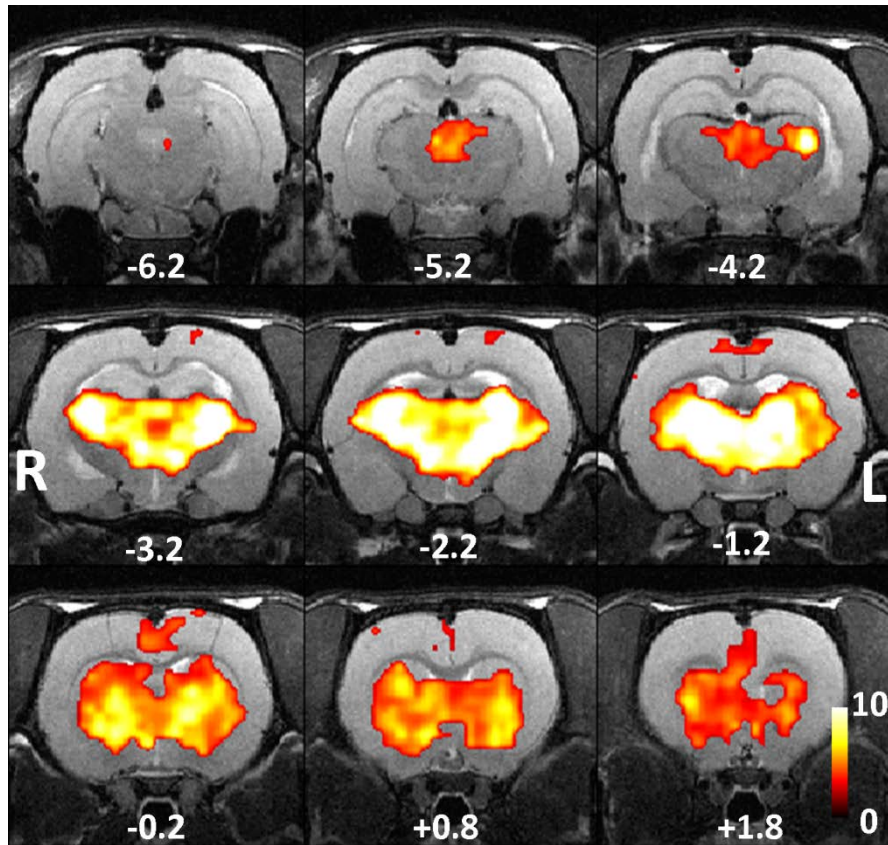
**SI Figure 1. Summary of the known anatomical thalamocortical connectivity relationship.** Afferent and efferent projections were both included. AUD, auditory cortex. VIS, visual cortex. MO, motor cortex. SS, somatosensory cortex. LSX, lateral septal complex. VISC, visceral area. AI, agranular insular area. ACA, anterior cingulate cortex. RSP, retrosplenial cortex. IL, infralimbic cortex. PL, prelimbic cortex. ORB, orbital cortex. RHP, retrohippocampal area.



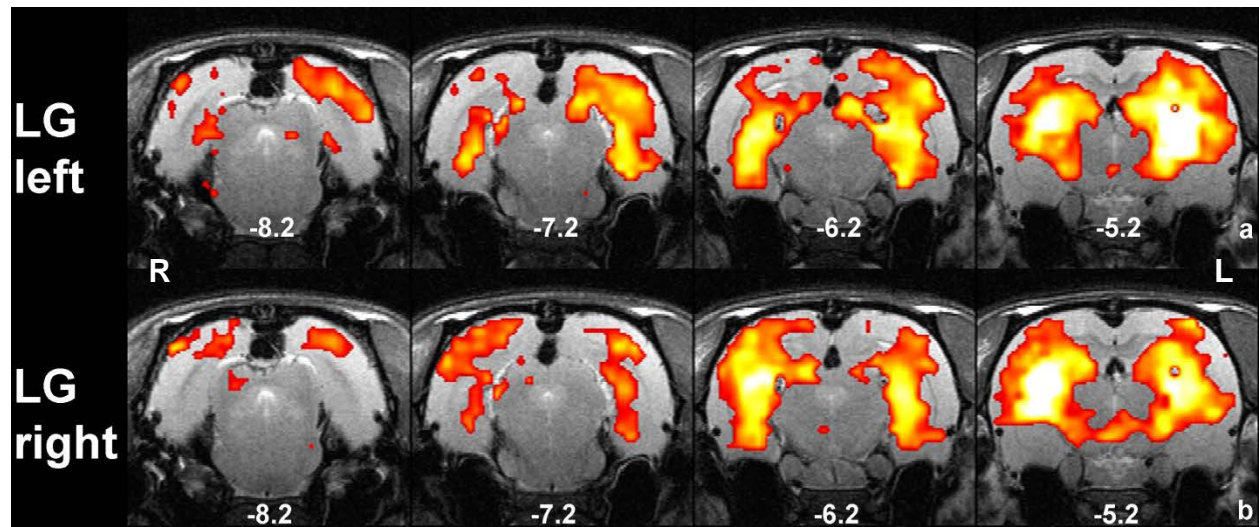
**SI Figure 2. Sagittal and axial views of the connectivity maps for seven thalamic nuclei groups in awake rats.** All maps were thresholded at  $p$  value  $< 0.05$ , FDR corrected.



SI Figure 3. The cortical connectivity patterns for seven thalamic nuclei in the anesthetized rat. All maps were thresholded at  $p$  value  $< 0.05$ , FDR corrected. Maps of  $t$  values were color coded and displayed. Distance to bregma (in mm) was labeled at the bottom of each slice. L, left, R, right.



**SI Figure 4. The functional connectivity map of reticular nucleus (RT) in awake rats.** The map was thresholded at  $p < 0.05$ , FDR corrected. Maps of t values were color coded and displayed. Distance to bregma (in mm) was labeled at the bottom of each slice. L, left, R, right.



**SI Figure 5. The cortical connectivity patterns of (a) left and (b) right LG.** Maps were thresholded at  $p$  value  $< 0.05$ , FDR corrected. Maps of  $t$  values were color coded and displayed. Distance to bregma (in mm) was labeled at the bottom of each slice. L, left, R, right.