

Figure S1. Thalamocortical connectivity at the low propofol dose. (A) The specific thalamic connectivity is relatively preserved. (B) The nonspecific connectivity is significantly reduced, yet connections in the lateral frontal, posterior cingulate and retrosplenial areas (part of the parietal default mode network) are moderately preserved as compared to deep sedation (compare with Figure 2). In examining the task-induced BOLD activations in the brain, we observed prominent activations in the dorsal medial prefrontal cortex that is uniquely associated with the low-dose condition. This is presumably associated with propofol-induced excitation that is common at a low-dose level. Due to the increased and unpredictable excitability, motion artifact, and large intersubject variation, imaging data obtained at the low propofol dose should be interpreted with caution.

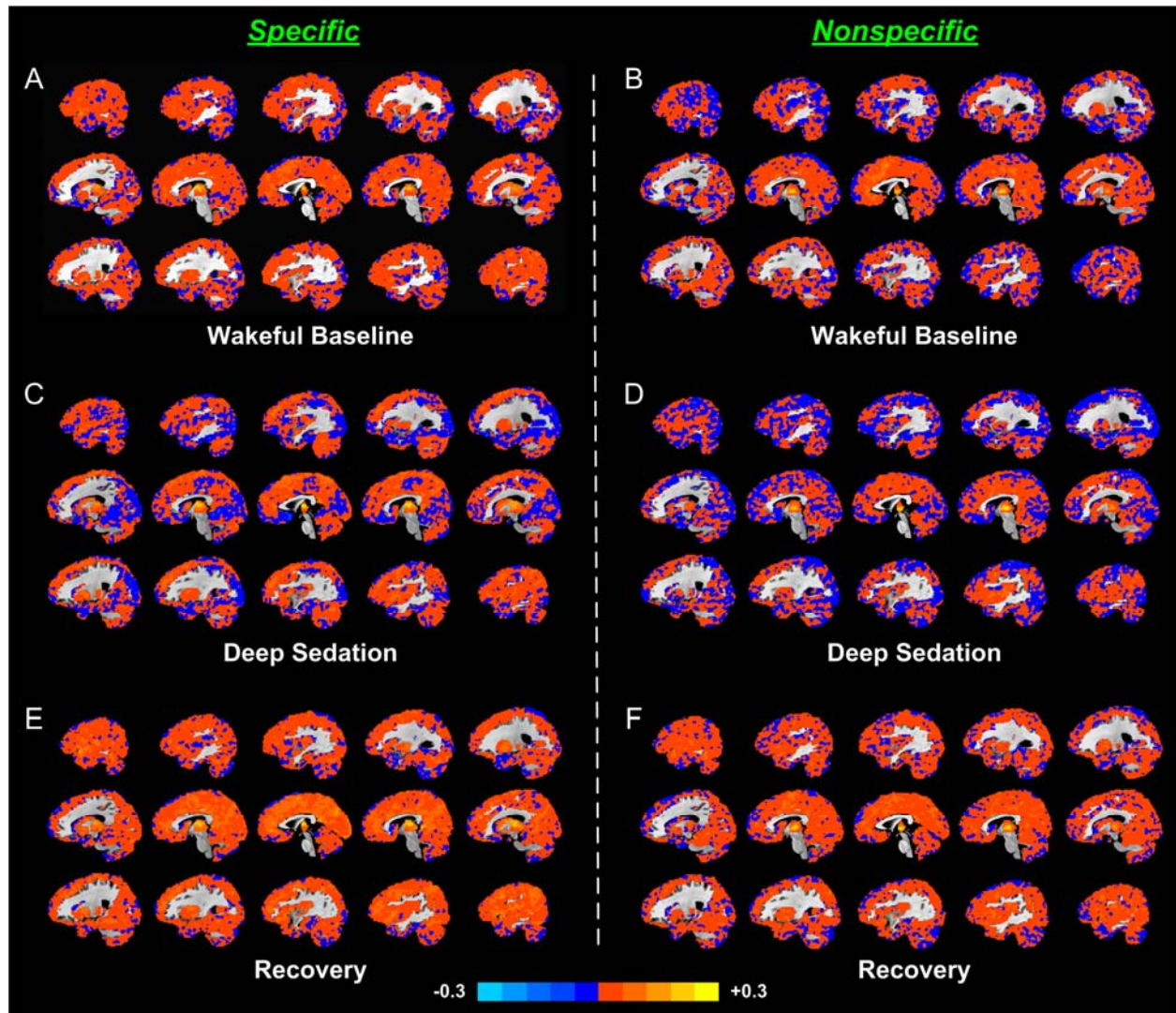


Figure S2. The full voxel-wise correlation maps obtained by averaging across all participants. The specific and nonspecific correlation maps respectively are shown in the states of wakeful baseline (A and B), deep sedation (C and D), and recovery (E and F). Red to yellow colors indicate positive correlations, blue hues indicate negative correlations. Note the loss of positive correlations and the gain of negative correlations during deep sedation as compared to the wakeful baseline. These changes are prominent in the lateral and medial cortical areas for the nonspecific system and several sensory and motor cortical areas for the specific system. A shift from negative to positive correlations in both systems is seen during recovery.

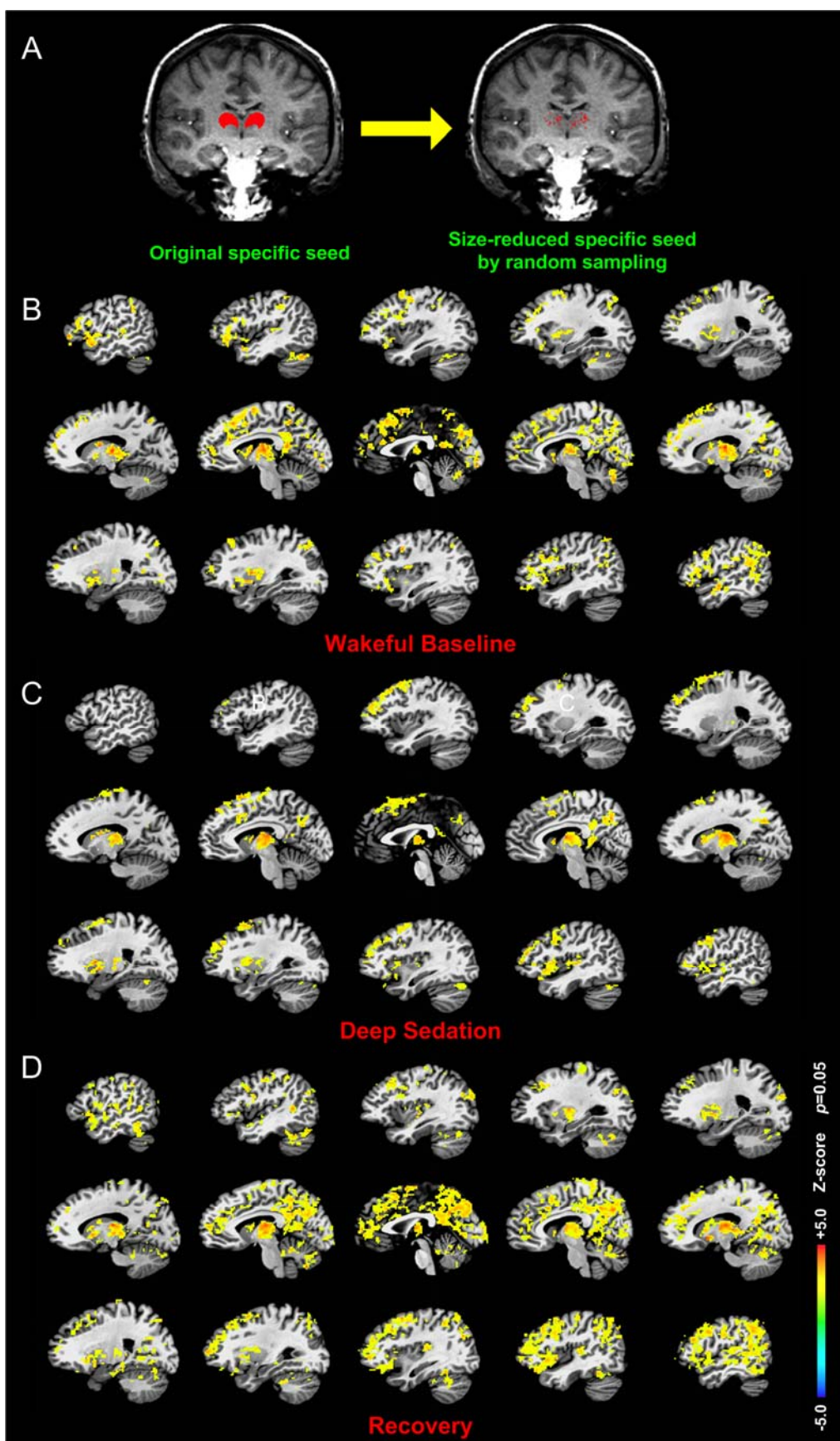


Figure S3. Functional connectivity analysis based on the reduced specific thalamic seed. The original specific thalamic seed was randomly subsampled to a number of voxels identical in quantity to those in the nonspecific seed for each participant. (A) Significant specific thalamic connectivity maps (one-sample t -test) were obtained using the reduced specific seed at wakeful baseline (B), deep sedation (C), and recovery (D). The changes of functional connectivity across the three states are similar to those obtained with the original larger specific thalamic seed. For the example shown in this figure, the overall decrease in the number of connected voxels is 41% in deep sedation. Repeated runs by randomly subsampling the specific seed yielded a similar pattern of the results.