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TARGET AUDIENCE This work is intended for researchers interested in the anatomical basis of functional connectivity.

MATERIALS AND METHODS

Functional connectivity: Anaesthetized monkeys were scanned at 9.4T for whole-brain structure (gradient-echo multi-slice, TR/TE=300/6ms, voxel size=0.5x0.5x1mm³), BOLD (2 shot gradient-echo EPI, TR/TE=750/16ms, voxel size=1x1x1mm³, number of volumes per run=300, number of runs=3) and CBV-weighted function (10 minutes following a slow i.v. bolus of 12mg/kg MION, TE=10ms, same sequence as BOLD). Raw functional data were realigned, slice-timing corrected and smoothed (FWHM=1mm) using SPM12⁶. The preprocessed data were coregistered to structural images using FLIRT⁷. Then the timecourse of each voxel was separately detrended and filtered (pass-band: 0.01-0.1Hz). The injection region of the neuronal tracer (transformed from the microscopy space) was used as the seed region. Pearson's correlation coefficients (rsCC and *p* value) between the average timecourse in the seed region and the timecourse of every other voxel in the brain were calculated. The functional connectivity measures were transformed into the atlas space using FLIRT.

RESULTS

CONCLUSION AND DISCUSSION

REFERENCES

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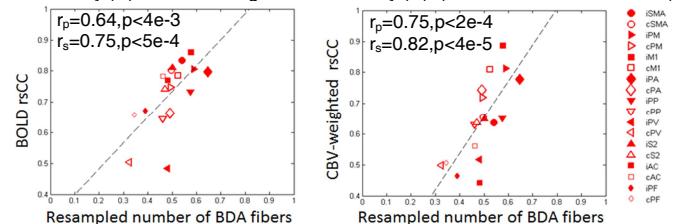
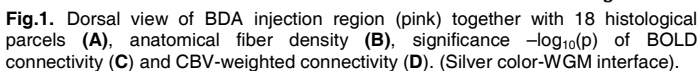


Fig 2. Relationships between resampled numbers of BDA fibers and rsCC of BOLD or CBV-weighted connectivity across 18 cortical parcels. r_p is the Pearson's correlation coefficient calculated from resampled data and r_s is the Spearman's rank correlation coefficient.