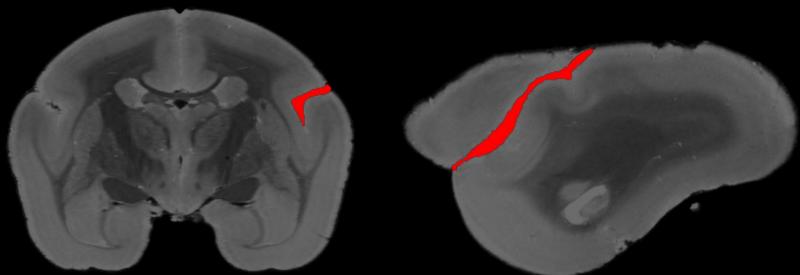
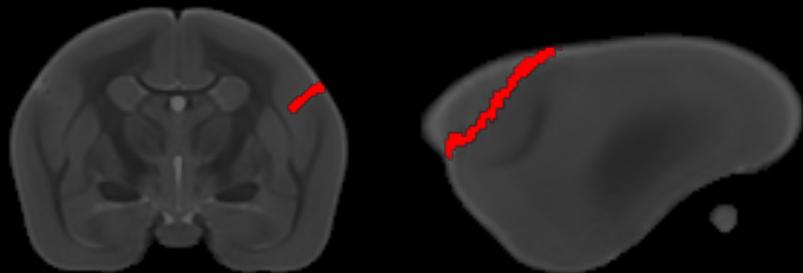


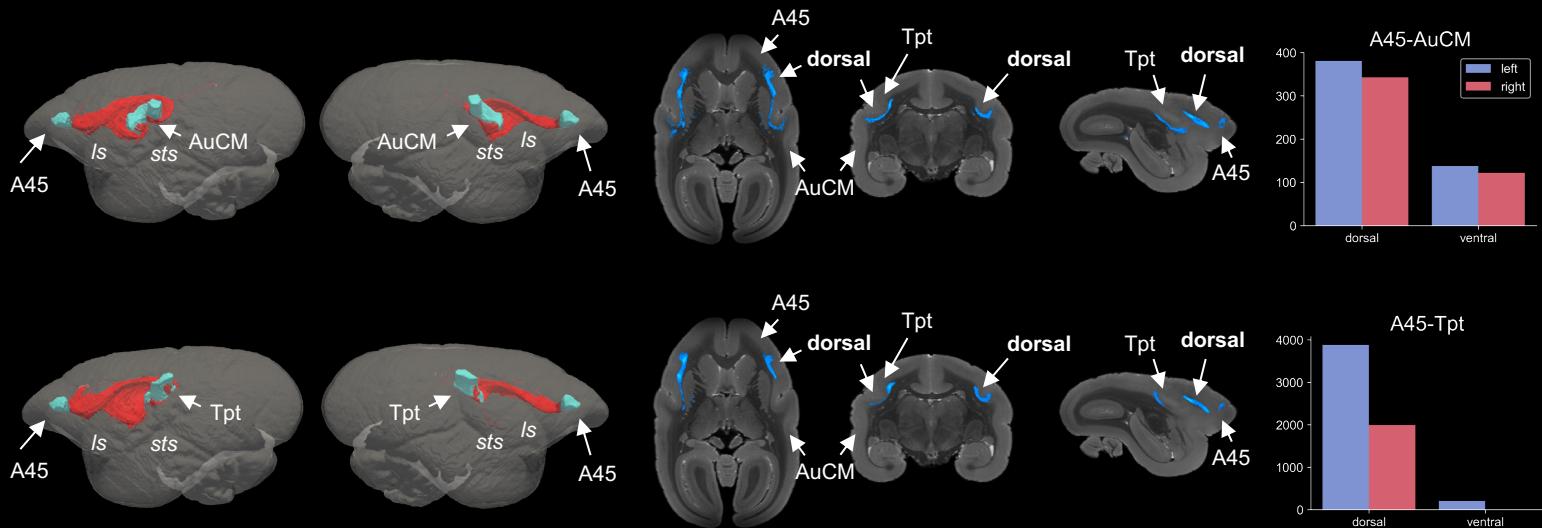
A. Exclusion mask covering lateral sulcus in the ultra-high-resolution marmoset



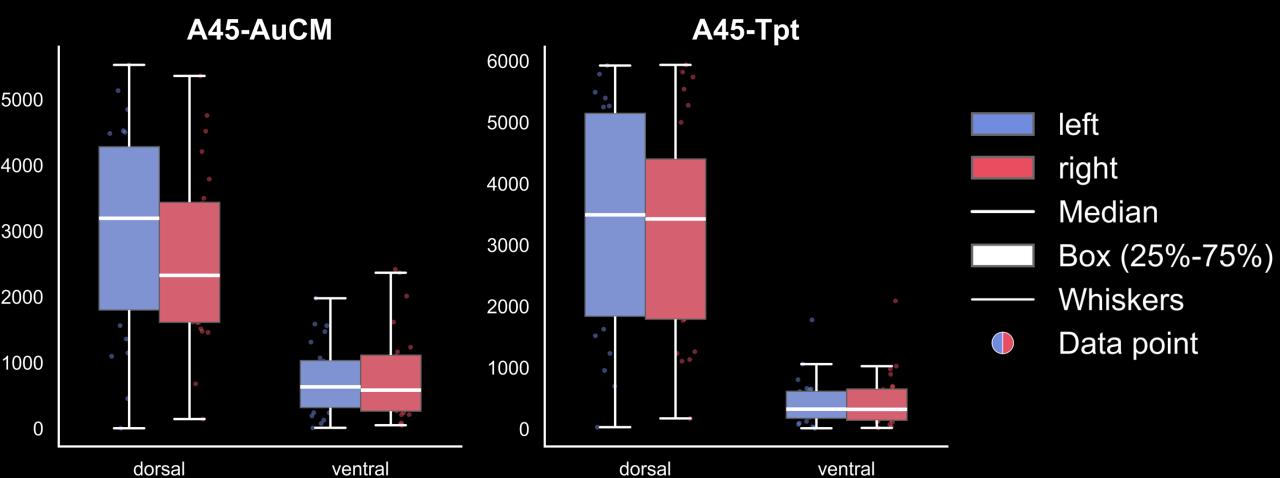
B. Exclusion mask covering lateral sulcus in the MBMv3 template

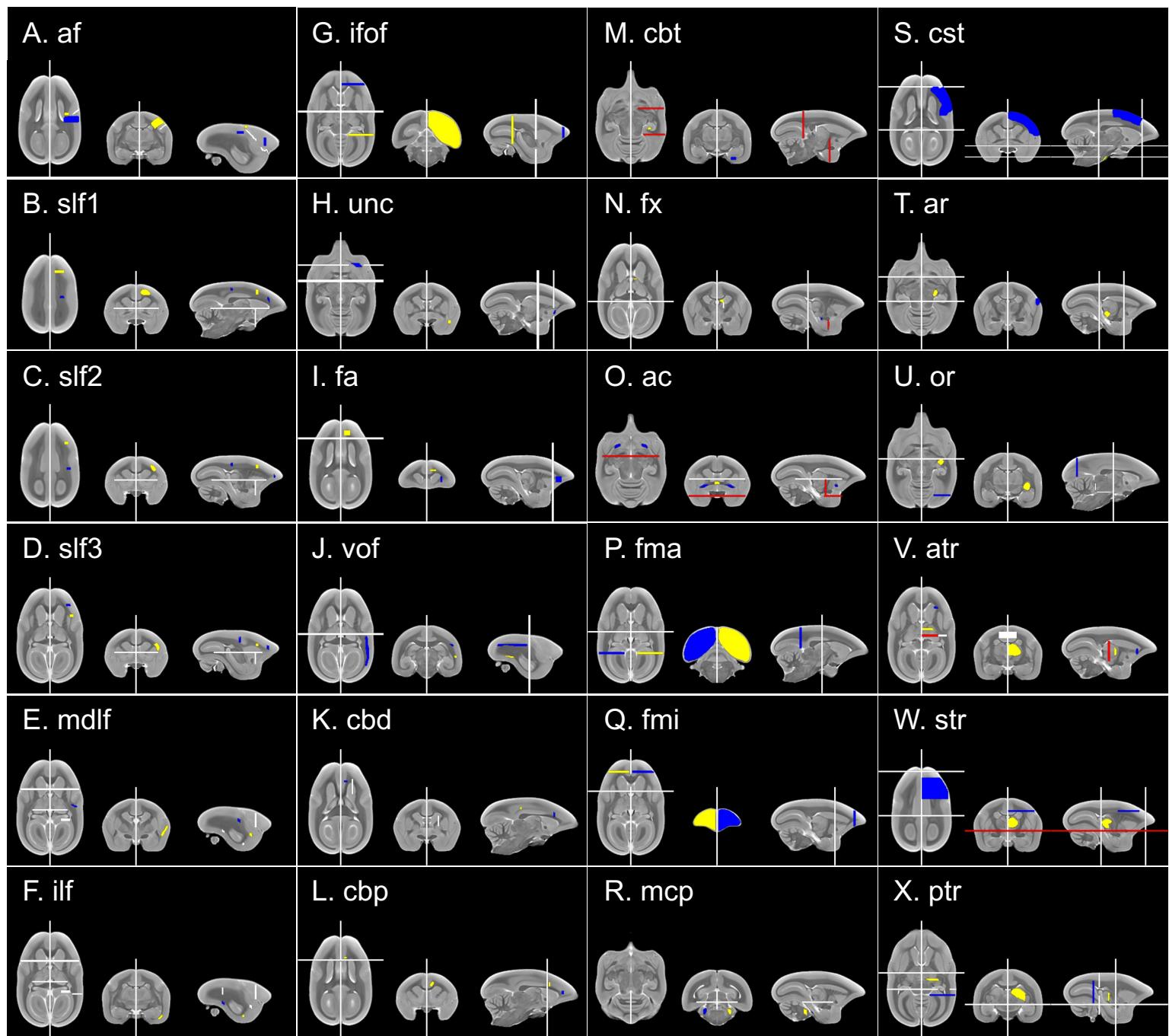


A. Reconstructing vPFC-pSTG dorsal pathway using iFOD2 tractography algorithm

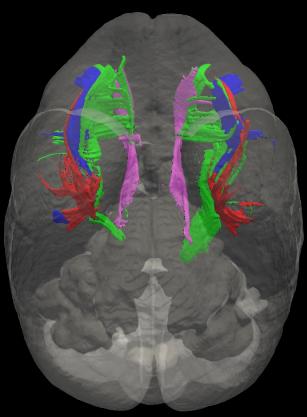
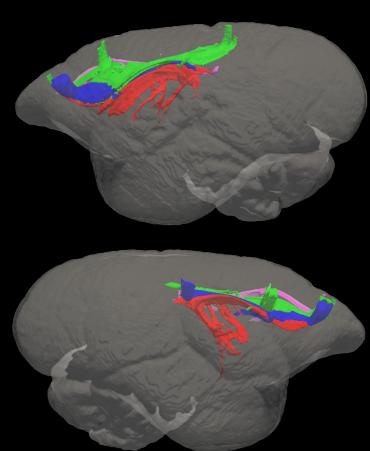


B. Reconstructing vPFC-pSTG dorsal pathway using MBM dataset

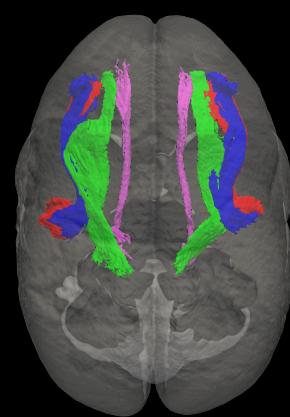
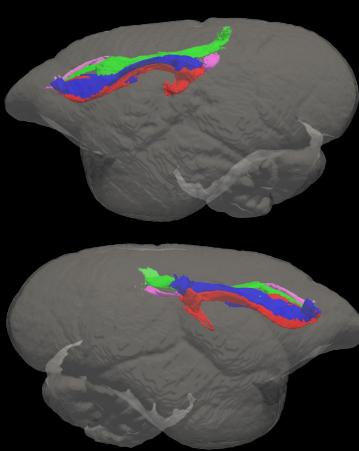




A. Reconstruction of tracts using probtrackx



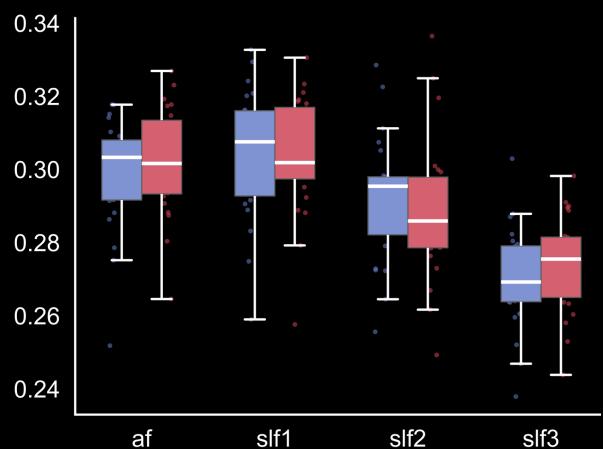
B. Reconstruction of tracts using iFOD2



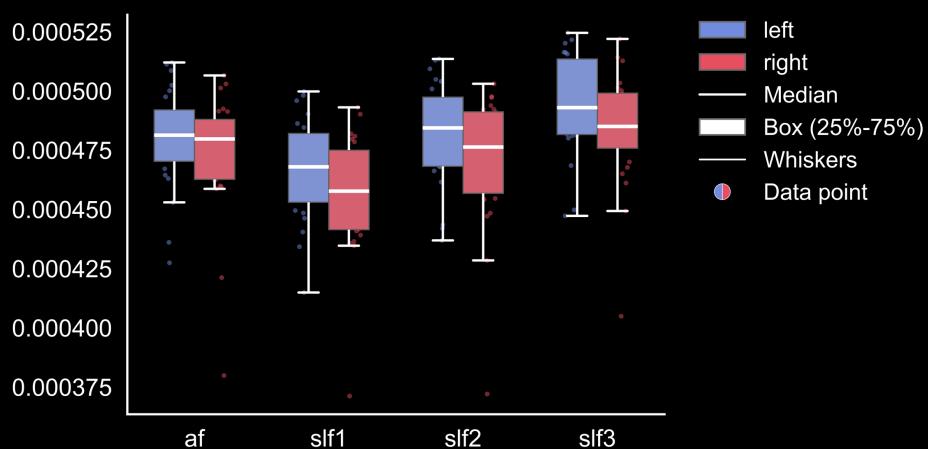
■ af ■ slf1 ■ slf2 ■ slf3

C. Difference of microstructure across tracts

FA



MD



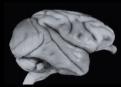
marmoset 

1×



macaque 

11×



chimpanzee 

60×

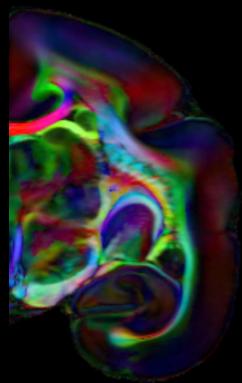


human 

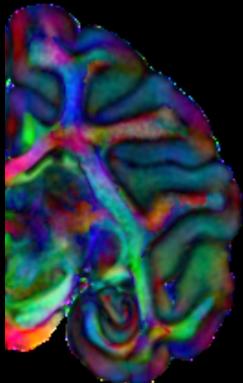
256×



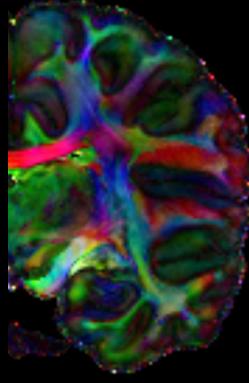
80- μm isotropic



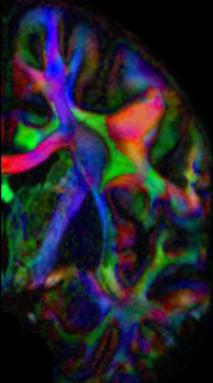
200- μm isotropic



500- μm isotropic



760- μm isotropic



1×

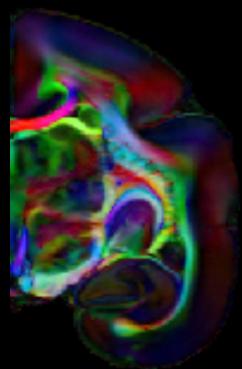
15.6×

244.1×

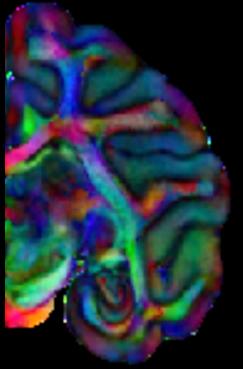
857.4×

Resample

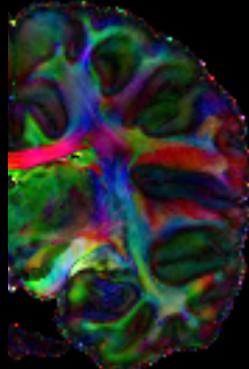
128- μm isotropic



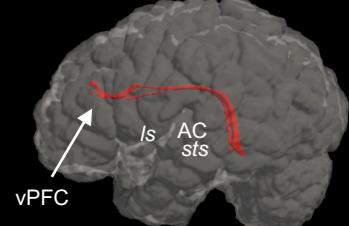
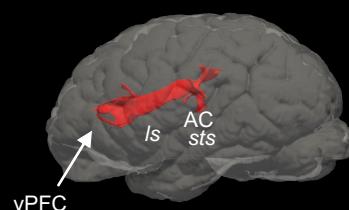
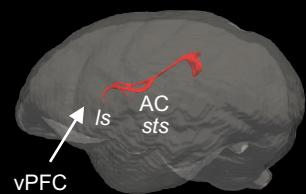
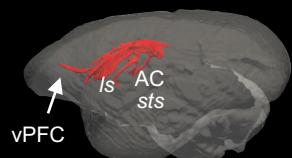
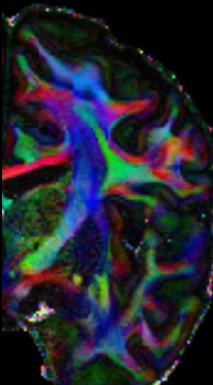
284- μm isotropic



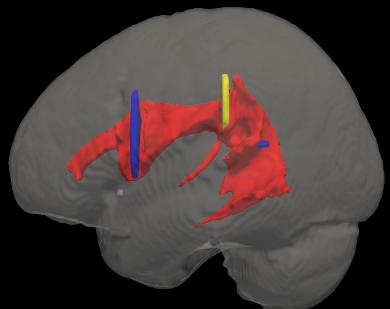
500- μm isotropic



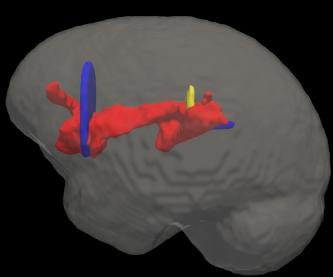
812- μm isotropic



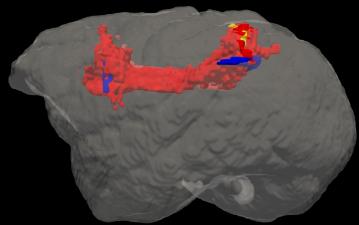
human 



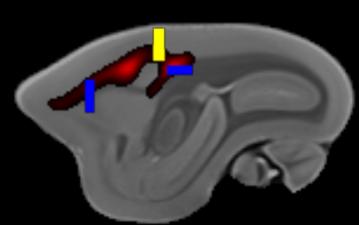
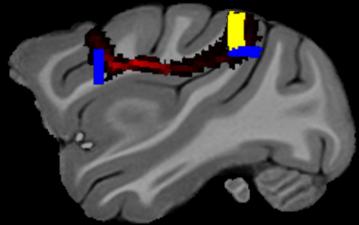
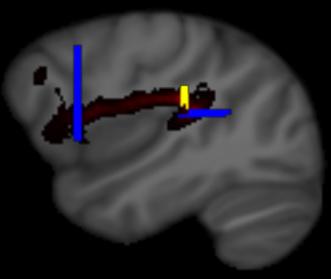
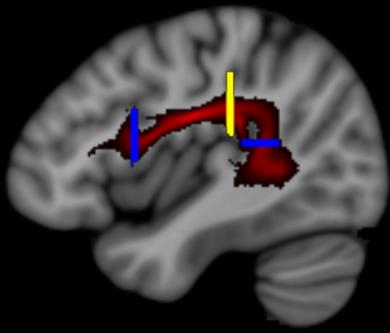
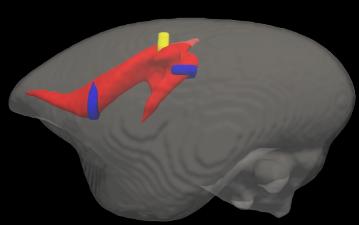
chimpanzee 



macaque 

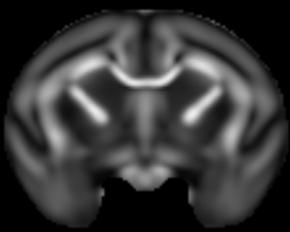


marmoset 

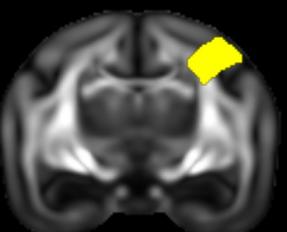


■ seed ■ target

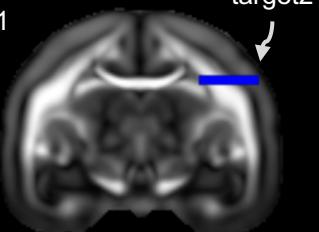
MBMv3 template



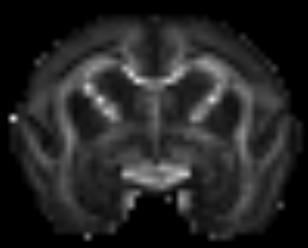
protocols in template



target1

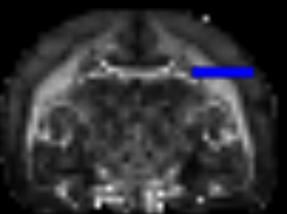
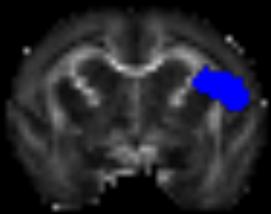
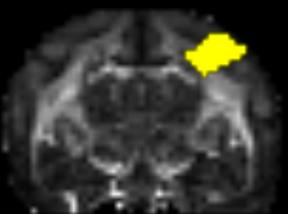


sub-NIHm14



wrap field

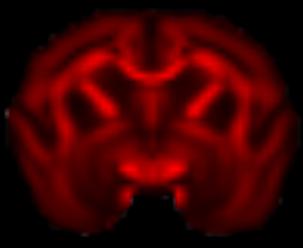
protocols in sub-NIHm14



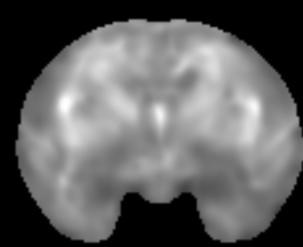
seed

target

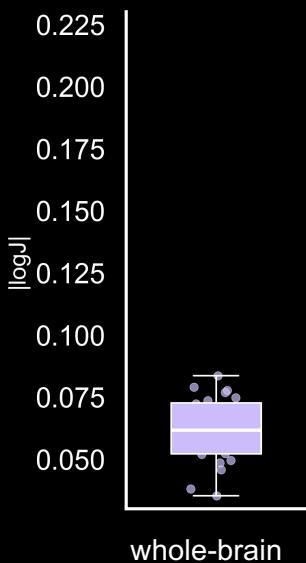
warped FA



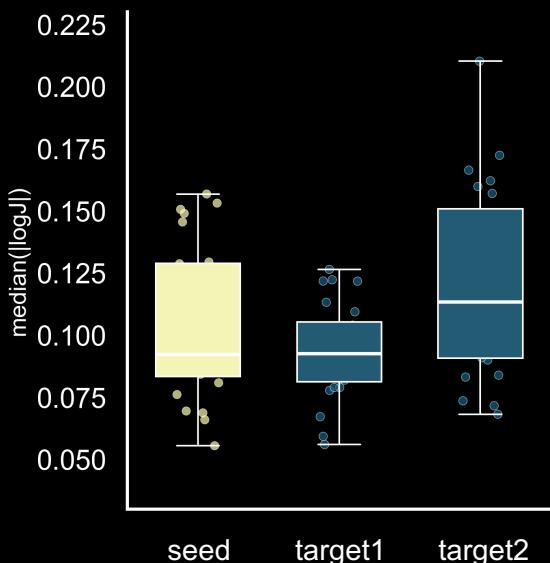
Jacobian



whole-brain deformation



ROI deformation



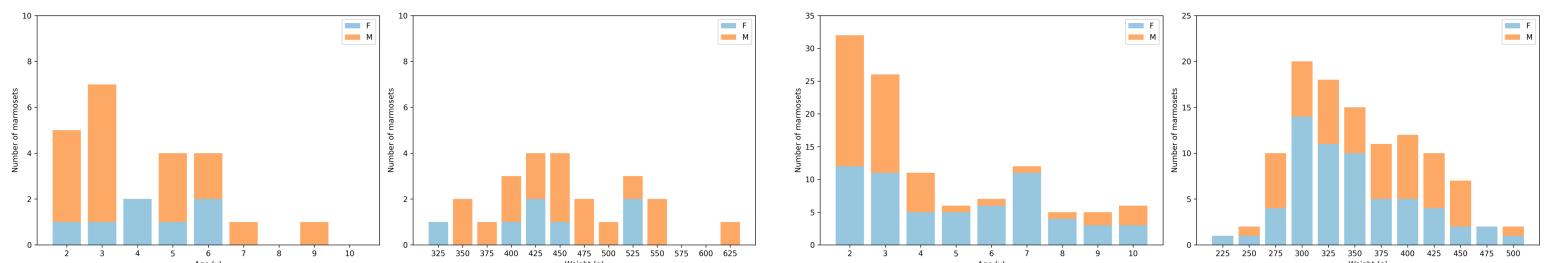
whole-brain

seed

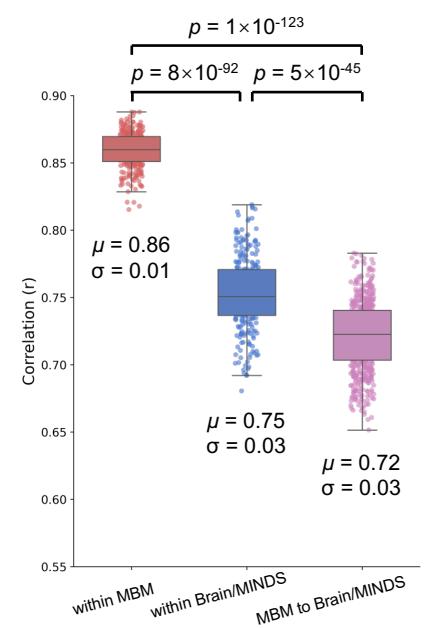
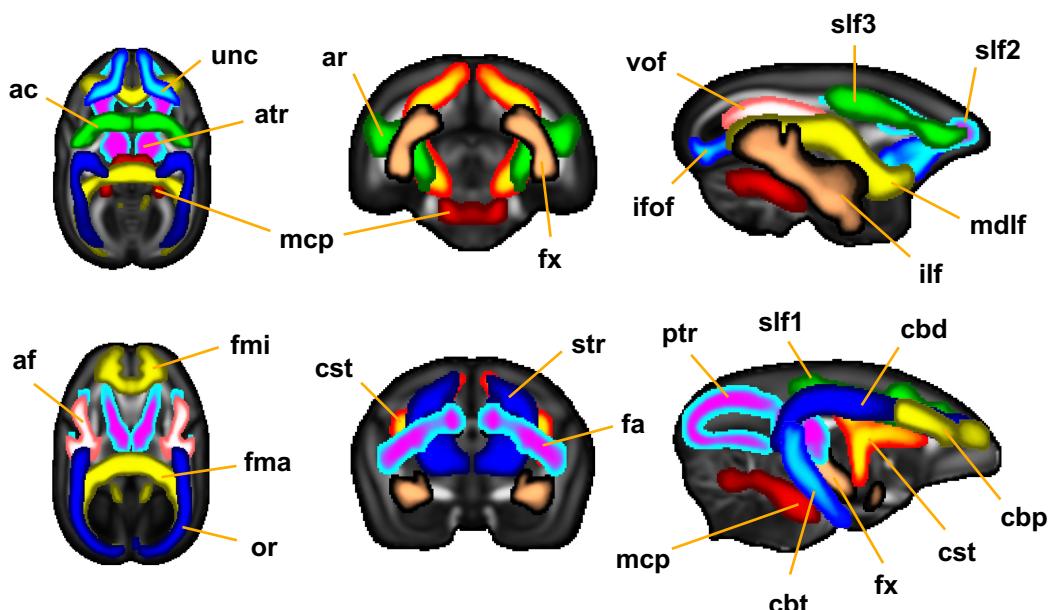
target1

target2

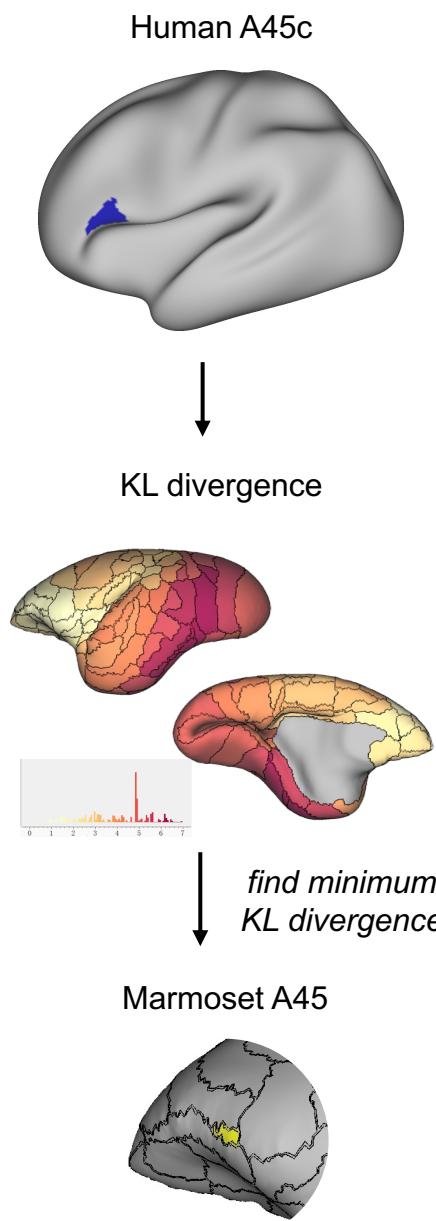
A. Histograms of age and weight of marmosets



B. Marmoset white matter tract atlas for the Brain/MINDS dataset

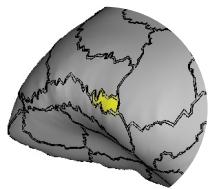


A. Identify homologous region using connectivity blueprint



find minimum KL divergence

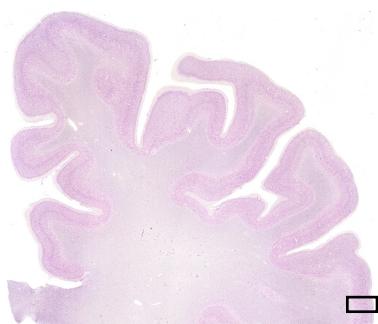
Marmoset A45



B. Validation of homology using cytoarchitecture

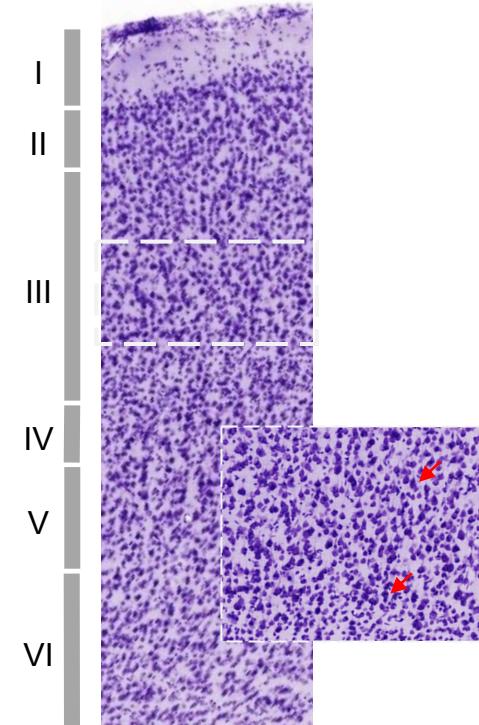
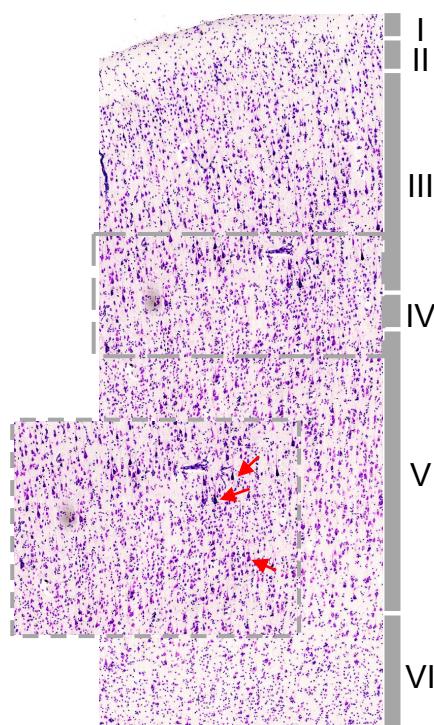
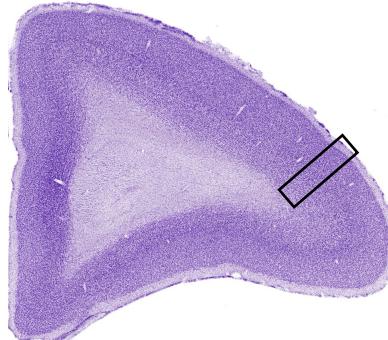
Human BA45

#15

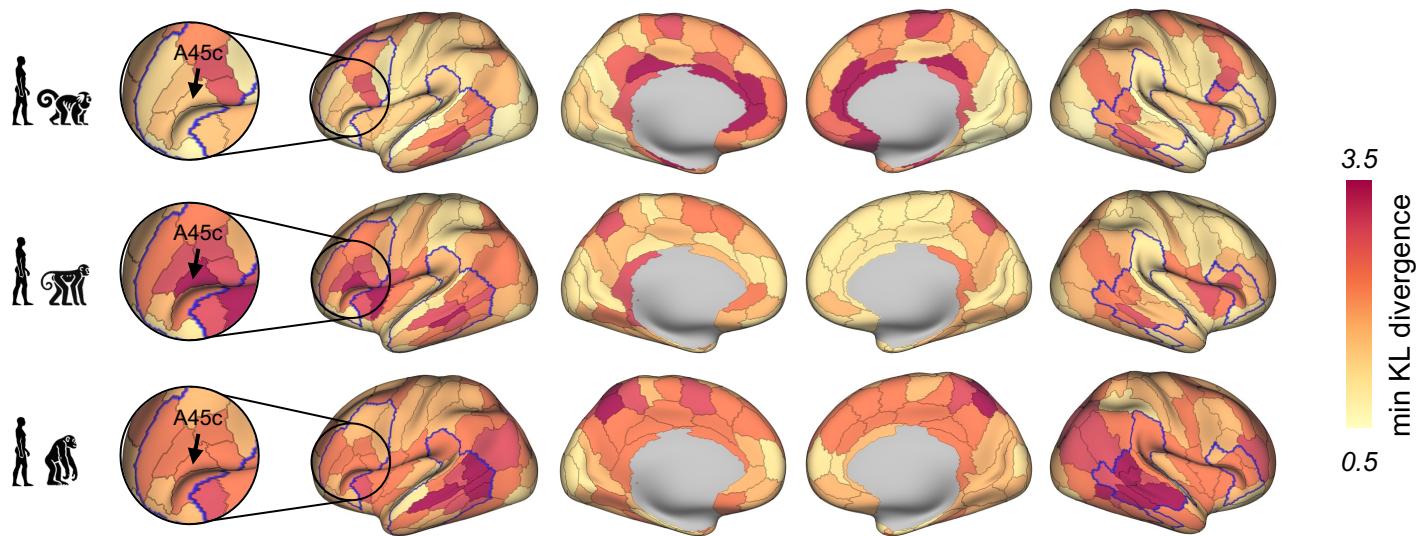


Marmoset A45

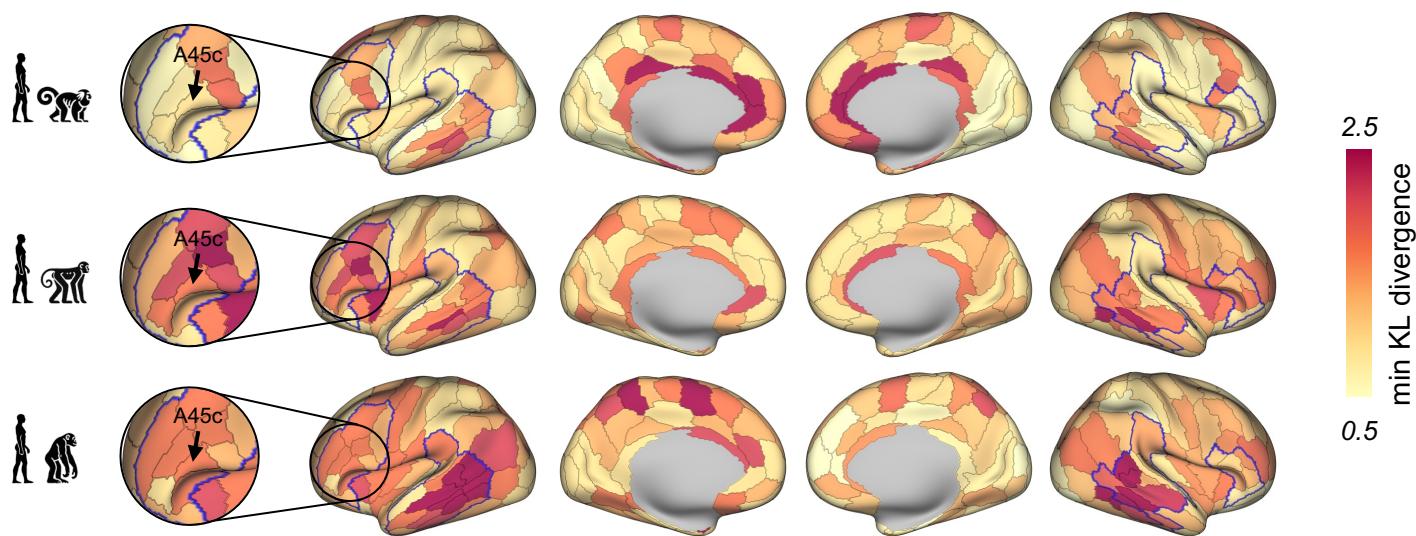
#110



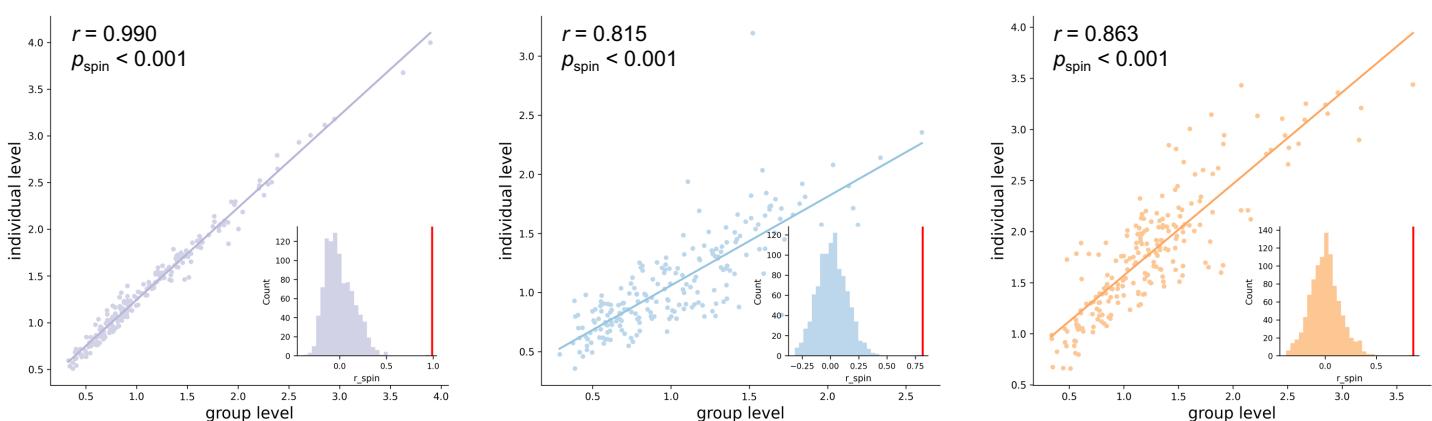
A. Connectivity divergence based on individual connectivity blueprints



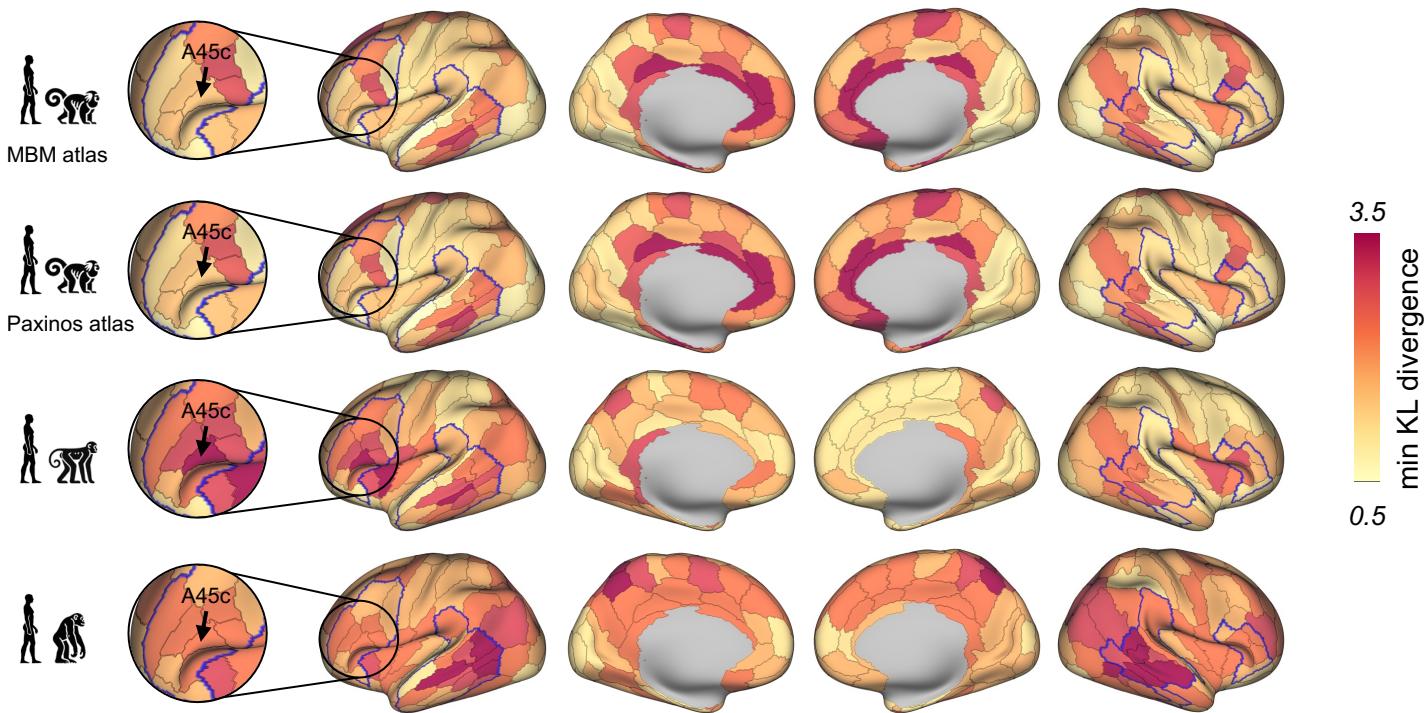
B. Connectivity divergence based on group connectivity blueprints



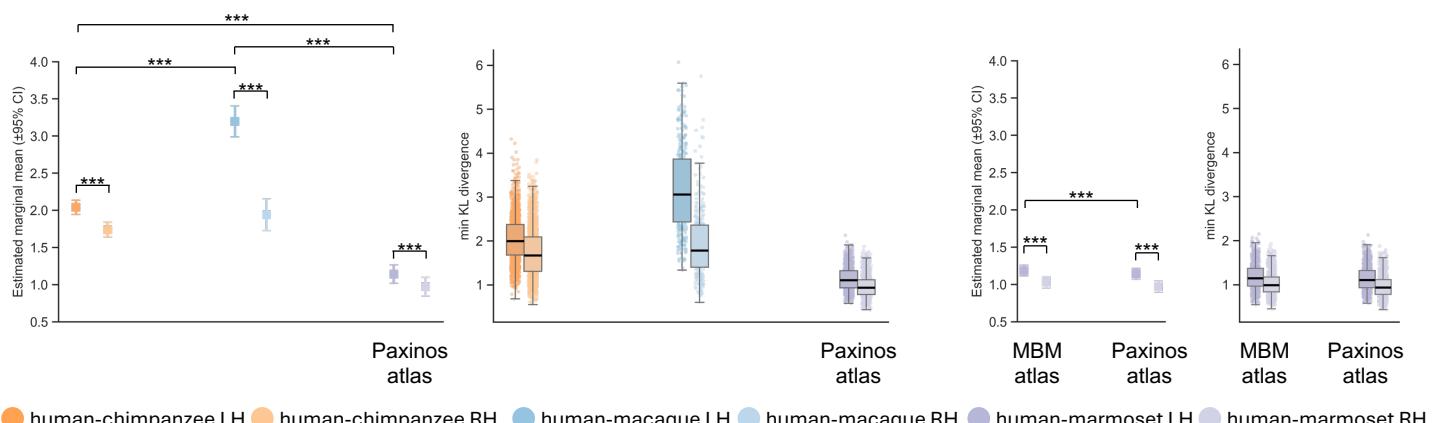
C. Similarity between individual- and group-based connectivity divergence



A. Connectivity divergence based on different atlases

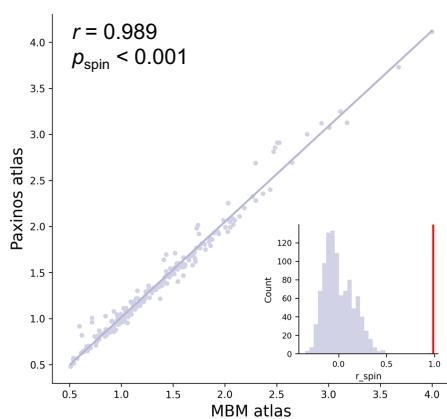


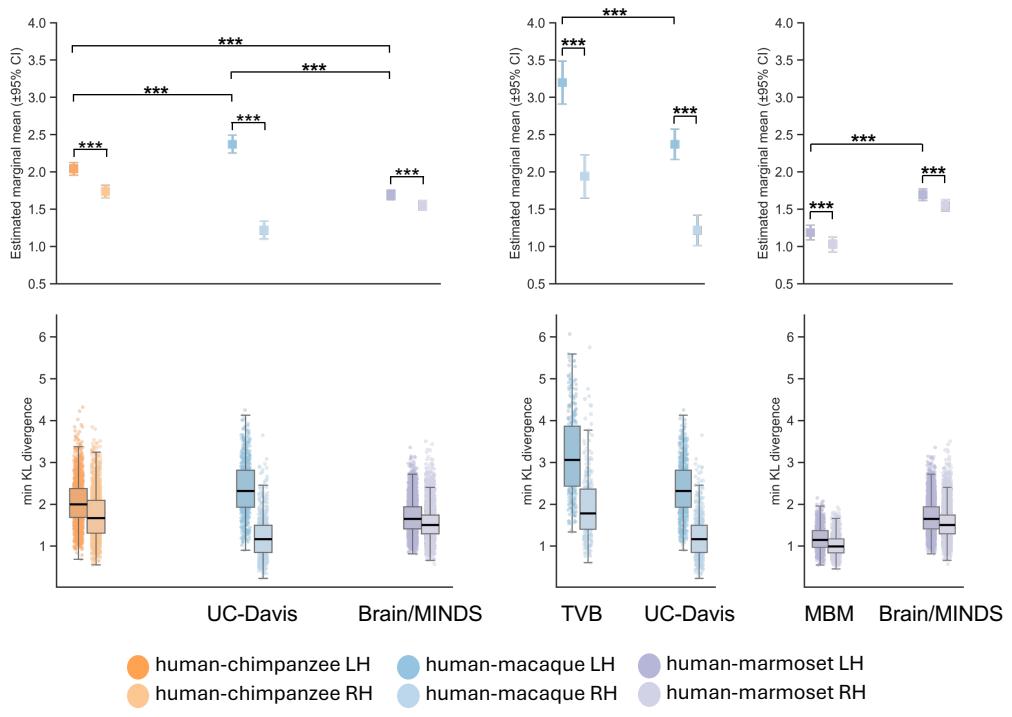
B. Connectivity divergence between humans and non-human primates in A45c



● human-chimpanzee LH ● human-chimpanzee RH ● human-macaque LH ● human-macaque RH ● human-marmoset LH ● human-marmoset RH

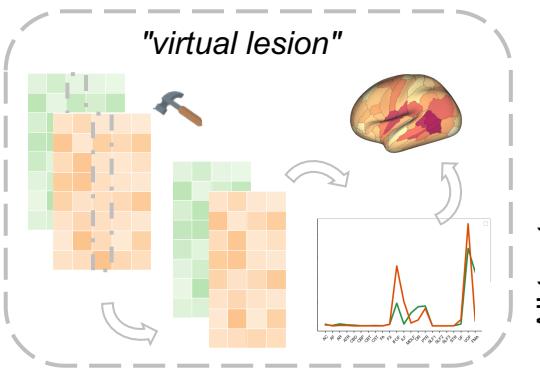
C. Similarity between connectivity divergence based on different atlases



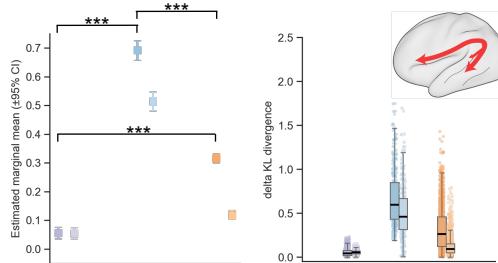


● human-chimpanzee LH ● human-macaque LH ● human-marmoset LH
 ○ human-chimpanzee RH ○ human-macaque RH ○ human-marmoset RH

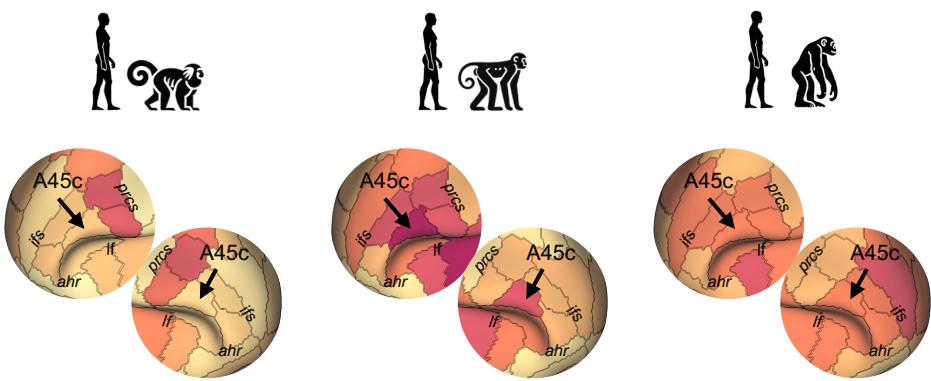
"virtual lesion"



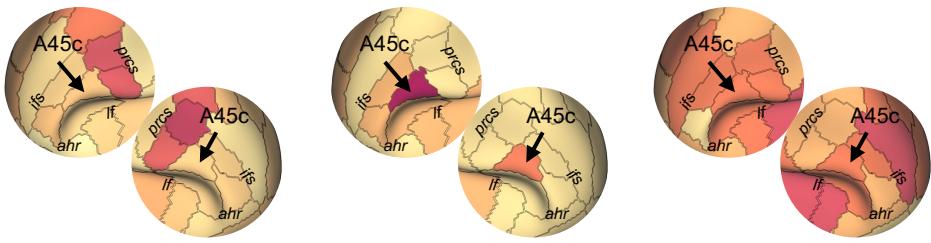
Legend:
● chimpanzee LH ● macaque LH ● marmoset LH
● chimpanzee RH ● macaque RH ● marmoset RH



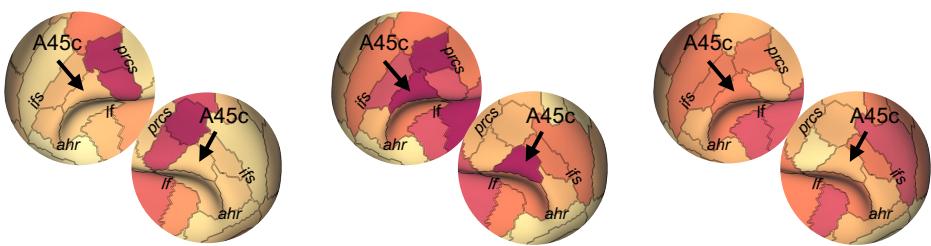
All tracts



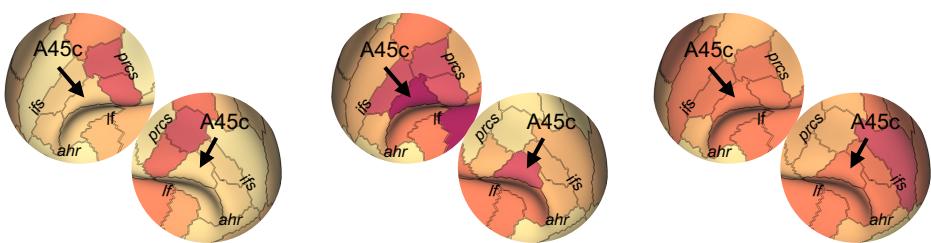
lesion af



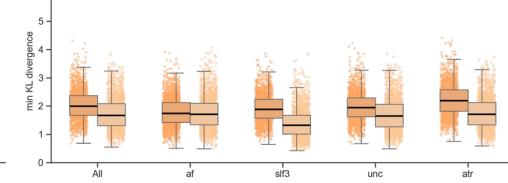
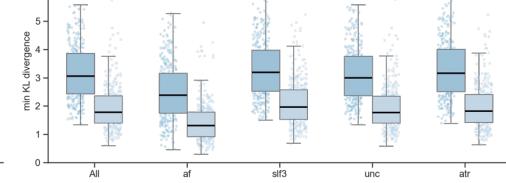
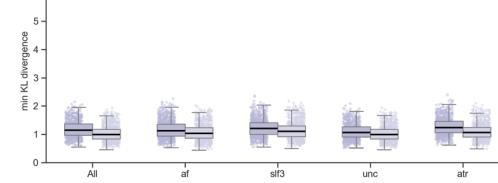
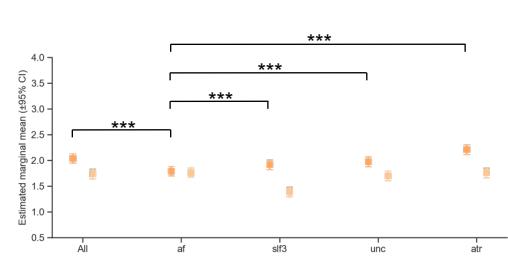
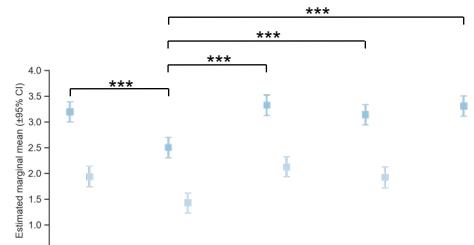
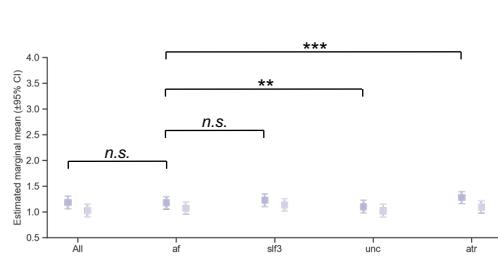
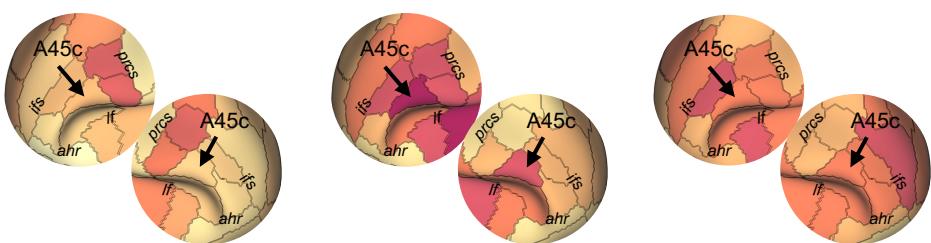
lesion sf3



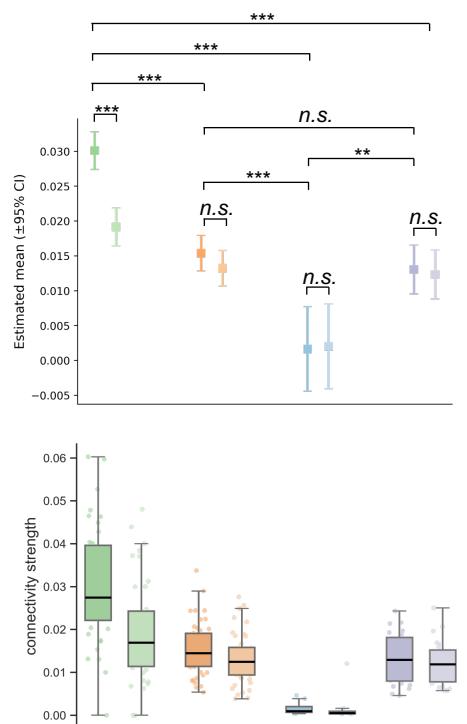
lesion unc



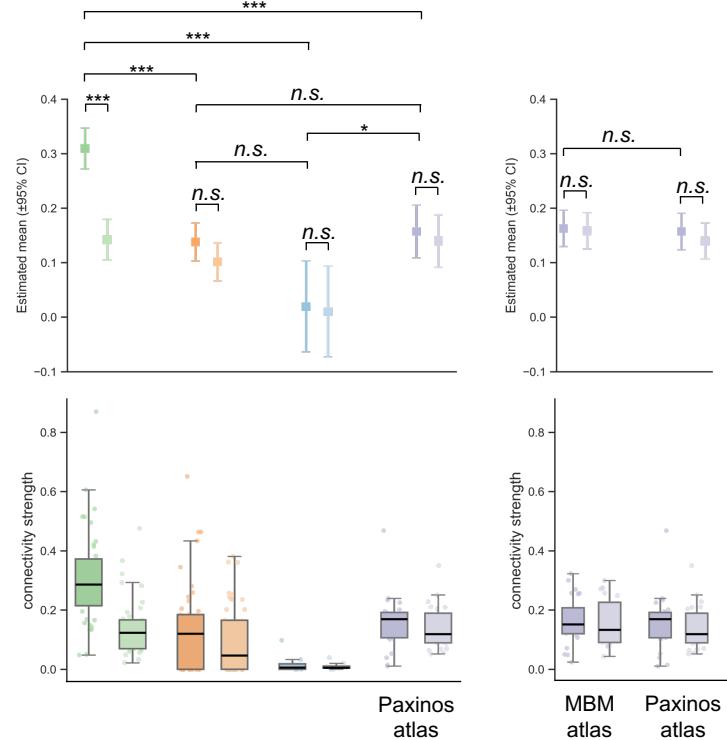
lesion atr



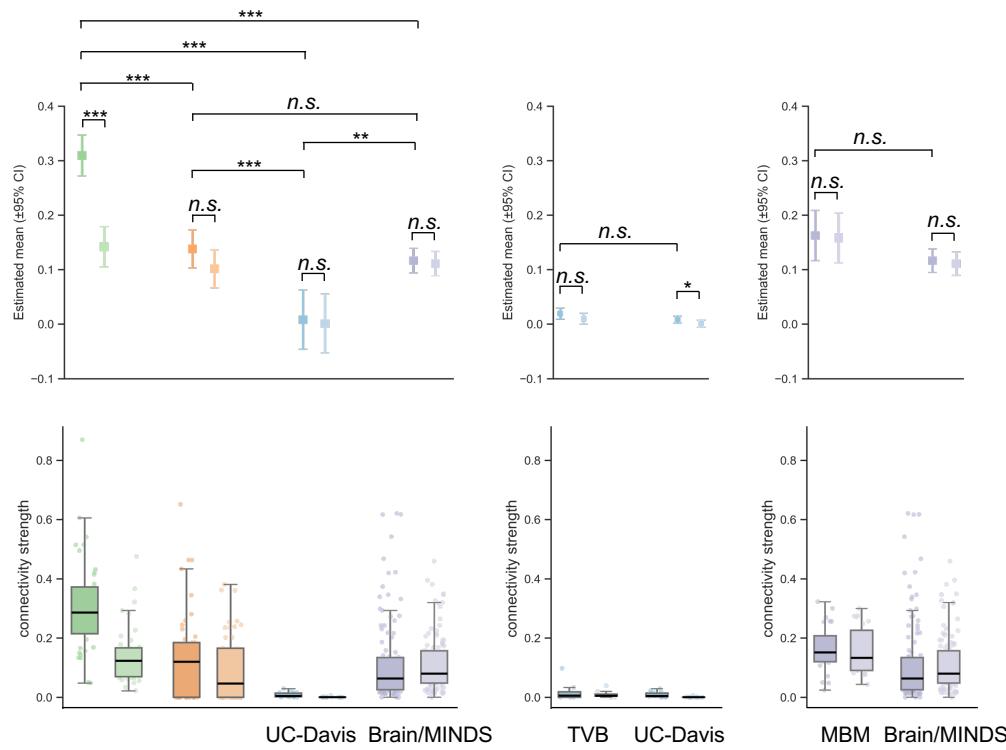
A. af-A45 connectivity strength with iFOD2 tractography



B. af-A45 connectivity strength with different atlases

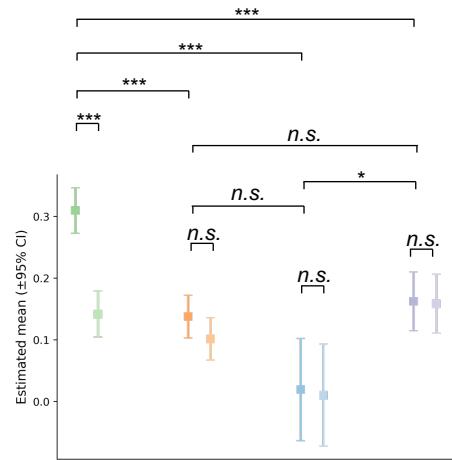


C. af-A45 connectivity strength with additional datasets

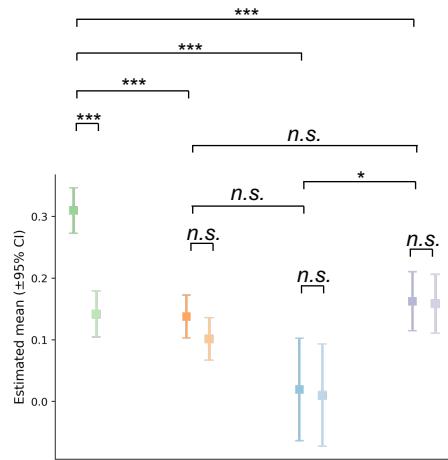


- human LH
- human RH
- chimpanzee LH
- chimpanzee RH
- macaque LH
- macaque RH
- marmoset LH
- marmoset RH

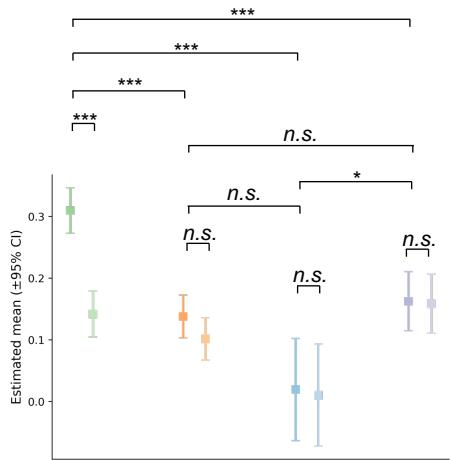
whole-brain volume



grey matter volume



white matter volume



● human LH ● human RH

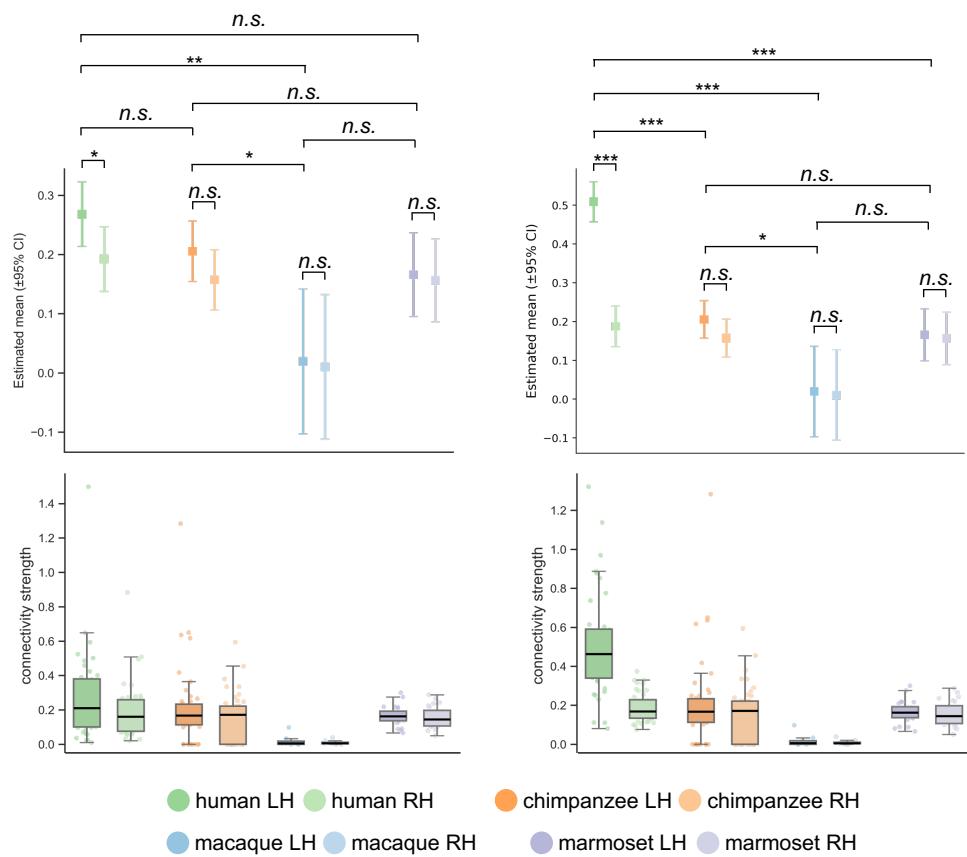
● chimpanzee LH ● chimpanzee RH

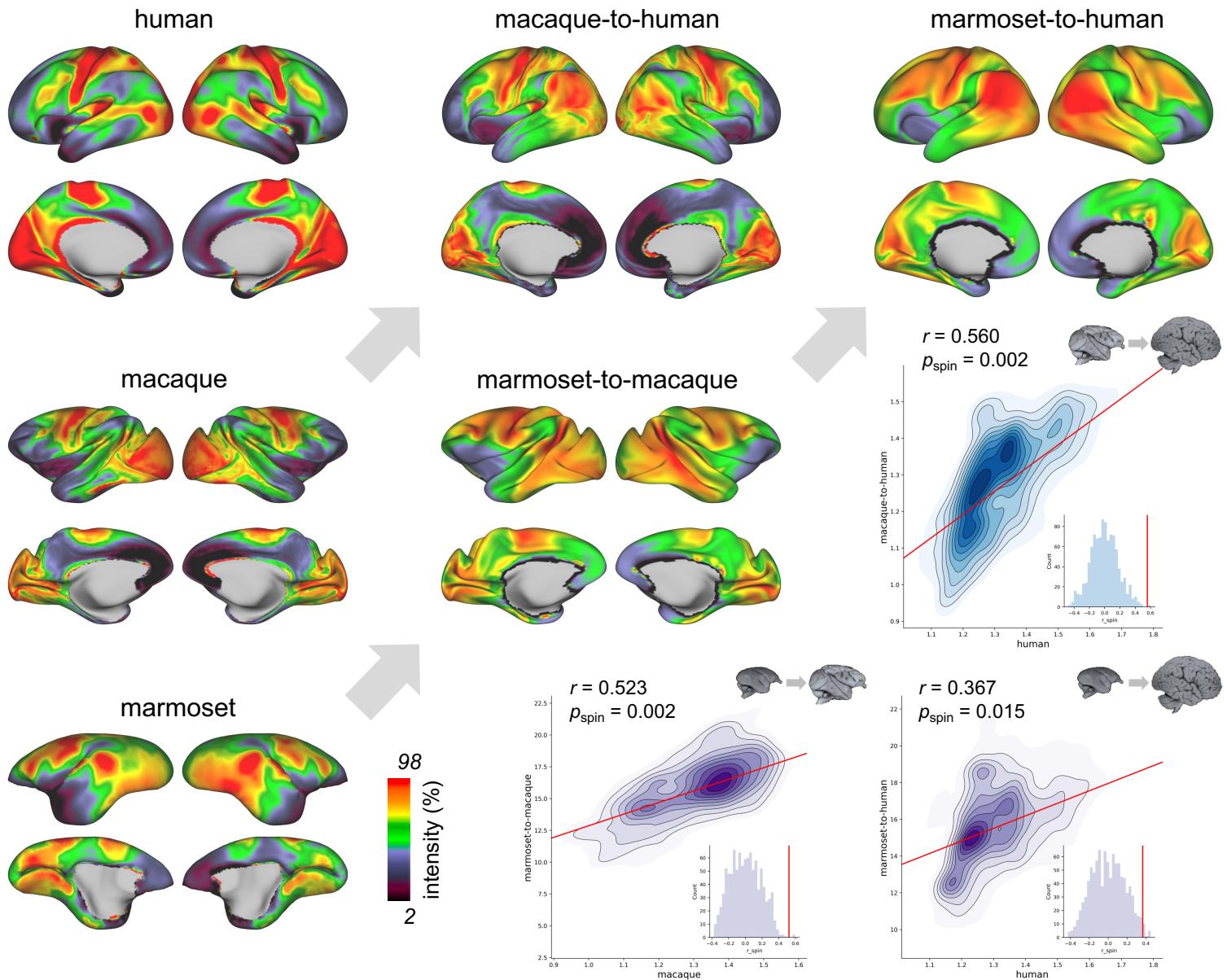
● macaque LH ● macaque RH

● marmoset LH ● marmoset RH

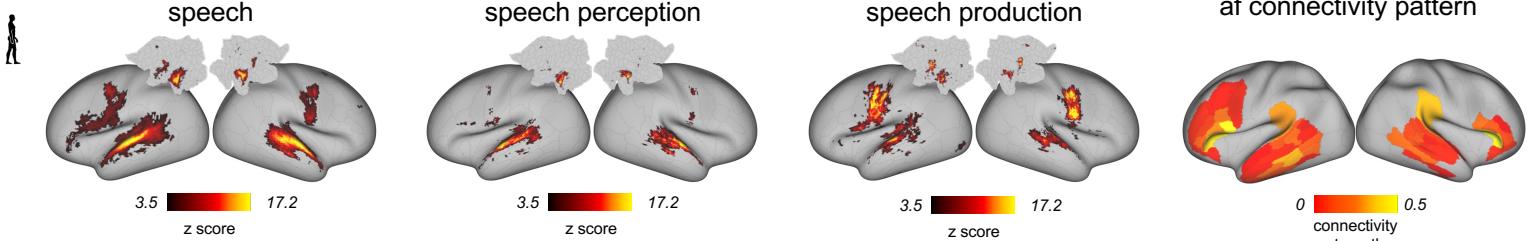
A44d - af

A44v - af

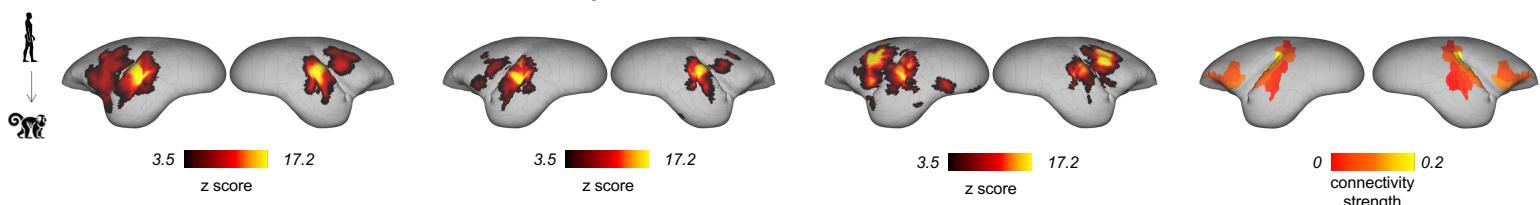




A. Activation patterns of human speech



B. Transform the human activation patterns to marmosets



C. Transform the human activation patterns to macaques

