

## **Supplemental Materials of**

### **Cross-species evidence of interplay between neural connectivity at the micro- and macroscale of connectome organization in human, mouse and rat brain**

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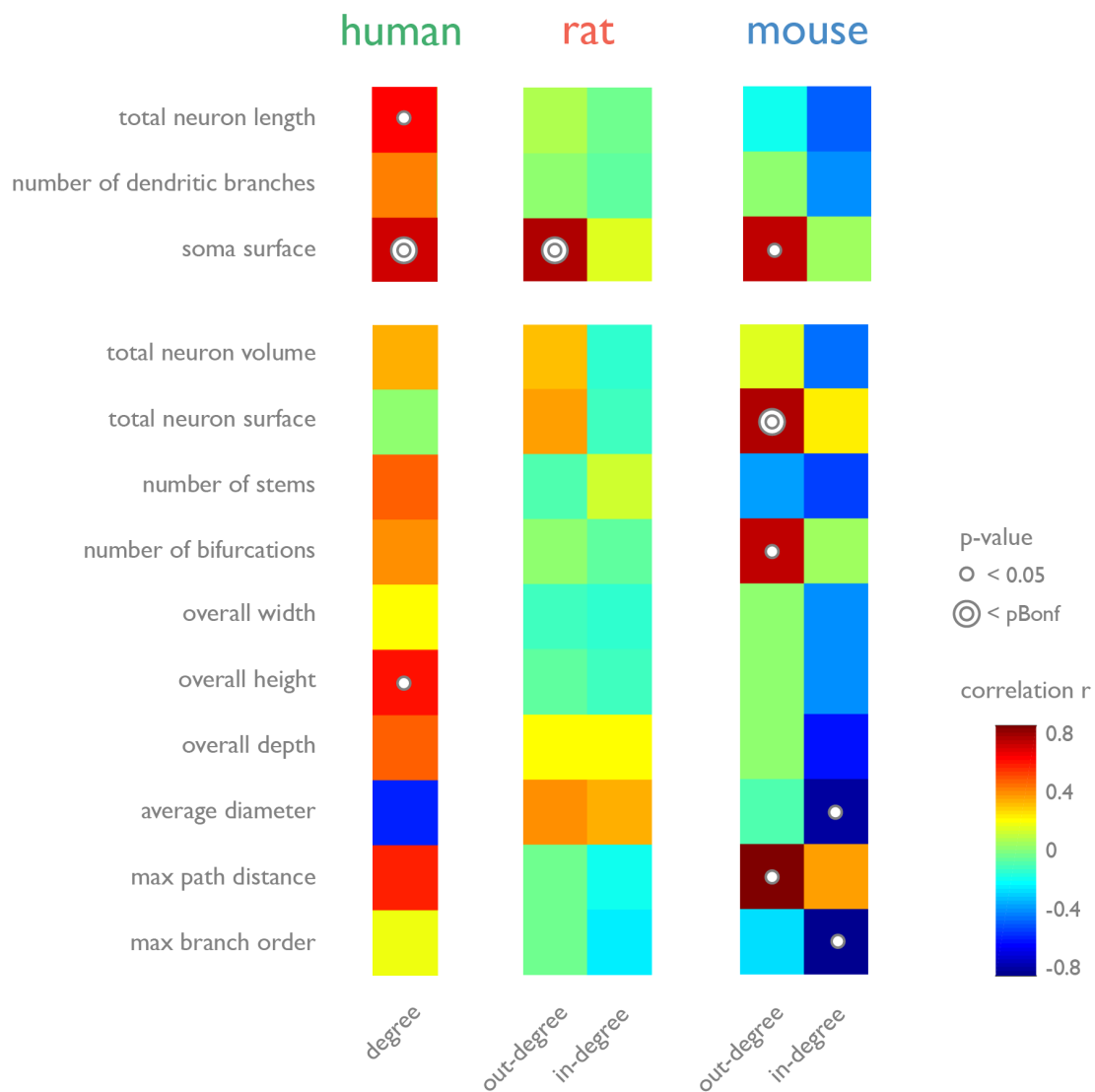
**Supplemental Figure S1. Human microscale data.** Summary statistics of microscale measures as extracted from NeuroMorpho.org for the human brain. Bar show region-wise mean for each measure; error bars show standard error.



**Supplemental Figure S2. Rat microscale data.** Summary statistics of microscale measures as extracted from NeuroMorpho.org for the rat brain. Bar show region-wise mean for each measure; error bars show standard error.



**Supplemental Figure S3. Mouse microscale data.** Summary statistics of microscale measures as extracted from NeuroMorpho.org for the mouse brain. Bar show region-wise mean for each measure; error bars show standard error.



**Supplemental Figure S4. Microscale-macroscopic correlations between all metrics.** Figure shows color coded correlation values between microscale measures (rows) and macroscopic connectivity (columns) for human, rat and mouse. Single circles indicate correlations reaching an (uncorrected) p-value of  $p < 0.05$ , double circles indicate correlations reaching partial Bonferroni correction.

<i>mapped Desikan -Killiany area</i>	<i>original area description</i>	<i>source publication</i>
<i>insula_1</i>	anterior long insular gyrus, middle short insular gyrus, posterior short insular gyrus	Anderson (2009)
<i>lateral occipital</i>	Brodmann area 18	Jacobs (1997)
<i>pars opercularis</i>	Brodmann area 44	Jacobs (2001)
<i>postcentral</i>	Brodmann area 3-1-2	Jacobs (2001)
<i>precentral</i>	Brodmann area 4	Jacobs (2001)
<i>rostral middle frontal</i>	Brodmann area 11	Jacobs (2001)
<i>superior frontal 1</i>	Brodmann area 10*	Jacobs (1997), Jacobs (2001)
<i>superior frontal 2</i>	Brodmann area 6	Jacobs (2001)
<i>superior temporal</i>	Brodmann area 22	Jacobs (2001)
<i>supramarginal</i>	Brodmann area 39	Jacobs (2001)

**Supplemental Table S1.** Regions as extracted from the NeuroMorpho.org database of the human brain mapped to regions of the DK-57 atlas. \*Described as area 10o of Öngür and Price (2000).

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<i>BAMS-II area</i>	<i>original area</i>	<i>source publication</i>
<i>AId</i>	Rostral agranular insular cortex	Brunjes (2010), Ehlinger (2012), Bergstrom (2008), Radman (2009)
<i>AON</i>	Pars principalis	Radman (2009), Brunjes (2010), Kole (2004), Carnevale (1997), Chitwood (1999), Meyer (2010), Bergstrom (2008), Ehlinger (2012),
<i>AUDp</i>	Primary auditory cortex	Barbour (2008)
<i>CA1</i>	CA1	Kole (2004), Schubert (2006) Radman (2009), Brunjes (2010), Chitwood (1999), Carnevale (1997), Hay (2011), Ishizuka (1995), Wang (2002), Scorza (2011), Bergstrom (2008), Shepherd (2005), Bannister (1995), Pyapali (1994), Pyapali (1998), Brown (2005), Furtak (2007), Megias (2001), Marcelin (2012), Golding (2005), Bories (2013)
<i>CA2</i>	CA2	Scorza (2011)
<i>MOp</i>	Precentral gyrus	Kole (2004), Radman (2009), Schubert (2006), Brunjes (2010)
<i>MOs</i>	Secondary motor cortex	Henze (1996), Ueta (2014), Hirai (2012)
<i>peri</i>	Perirhinal	Furtak (2007), Bergstrom (2008)
<i>PL</i>	Prelimbic	Schubert (2006), Bergstrom (2008), Ehlinger (2012), Brunjes (2010), Ishizuka (1995), Staiger (2004), Shepherd (2005), Bannister (1995), Steger (2013), Turner (1995), Pyapali (1996), Furtak (2007), Bar-Yehuda (2008), Zheng (2012), Marcelin (2012), Scorcioni (2005), Karagiannis (2009), Bories (2013)
<i>SSp</i>	Primary somatosensory; Barrel cortex	Kole (2004), Bergstrom (2008), Schubert (2006), Radman (2009), Helmstaedter (2009), Meyer (2010), Karagiannis (2009), Steger (2013), Marx (2013), Wang (2002), Hay (2011), Ishizuka (1995), Staiger (2004), Hirai (2012), Bar-Yehuda (2008)

**Supplemental Table S2.** Regions as extracted from the NeuroMorpho.org database of the rat brain mapped to regions of Swanson's rat brain atlas as used in BAMS-II (Bota, et al., 2015).

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<i>mapped Allen Mouse Brain Atlas area</i>	<i>original area</i>	<i>source publication</i>
<i>AON</i>	anterior olfactory nucleus	Brunjes (2011)
<i>BLA</i>	basolateral amygdala complex	Carim-Todd (2009)
<i>CA1</i>	CA1	Michaelsen (2010), Beguin (2013)
<i>CA3</i>	CA3	Heistek (2013)
<i>MOs</i>	secondary motor cortex	Ballesteros-Yáñez (2007)
<i>SSp-bfd</i>	barrel cortex	Krieger (2007), Groh (2010), Chen (2009)
<i>VISp</i>	visual	Tsay (2002)

**Supplemental Table S3.** Regions as extracted from the NeuroMorpho.org database of the mouse brain mapped to regions of the Allen Mouse Brain Atlas as presented in (Oh, et al., 2014).

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