

Supplementary Table 1. 162 ROIs adopted from the Desikan–Killiany parcellation atlas by FreeSurfer

#	ROI Name	Abbreviations	Network	#	ROI Name	Abbreviations	Network
	<b>Limbic Area</b>			83	ctx_S_precentral-sup-part	L.PRS	SMA
	left			84	ctx_S_suborbital	L.SO	DMN
1	Thalamus-Proper	L.TH	LBN	85	ctx_S_subparietal	L.SP	DMN
2	Caudate	L.CU	LBN	86	ctx_S_temporal_inf	L.TIS	DMN
3	Putamen	L.PT	LBN	87	ctx_S_temporal_sup	L.TSS	DMN
4	Pallidum	L.PA	LBN	88	ctx_S_temporal_transverse	L.TTS	SMA
5	Hippocampus	L.HP	LBN	right			
6	Amygdala	L.AY	LBN	89	ctx_G_and_S_frontomargin	R.FT	FPN+DMN
7	Accumbens-area	L.AA	LBN	90	ctx_G_and_S_occipital_inf	R.OI	DAN+FPN
	right			91	ctx_G_and_S_paracentral	R.PC	SMA
8	Thalamus-Proper	R.TH	LBN	92	ctx_G_and_S_subcentral	R.SC	SMA
9	Caudate	R.CU	LBN	93	ctx_G_and_S_transv_frontopol	R.TF	LBN+DMN
10	Putamen	R.PT	LBN	94	ctx_G_and_S_cingul-Ant	R.CA	DMN
11	Pallidum	R.PA	LBN	95	ctx_G_and_S_cingul-Mid-Ant	R.CMA	VAN+FPN
12	Hippocampus	R.HP	LBN	96	ctx_G_and_S_cingul-Mid-Post	R.CMP	SMN+DMN
13	Amygdala	R.AY	LBN	97	ctx_G_cingul-Post-dorsal	R.CPD	DMN+FPN
14	Accumbens-area	R.AA	LBN	98	ctx_G_cingul-Post-ventral	R.CPV	VIN+DMN
	<b>Destrieux atlas</b>			99	ctx_G_cuneus	R.CN	VIN
	left			100	ctx_G_front_inf-Opercular	R.FIP	VAN+SMA

15	ctx_G_and_S_frontomargin	L.FT	FPN+DMN	101	ctx_G_front_inf-Orbital	R.FIO	DMN+FPN
16	ctx_G_and_S_occipital_inf	L.OI	DAN+FPN	102	ctx_G_front_inf-Triangul	R.FIR	VAN+FPN
17	ctx_G_and_S_paracentral	L.PC	SMA	103	ctx_G_front_middle	R.FMG	DMN+FPN
18	ctx_G_and_S_subcentral	L.SC	SMA	104	ctx_G_front_sup	R.FSG	DMN
19	ctx_G_and_S_transv_frontopol	L.TF	LBN+DMN	105	ctx_G_Ins_lg_and_S_cent_ins	R.IN	VAN+SMA
20	ctx_G_and_S_cingul-Ant	L.CA	DMN	106	ctx_G_insular_short	R.IS	VAN+SMA
21	ctx_G_and_S_cingul-Mid-Ant	L.CMA	VAN+FPN	107	ctx_G_occipital_middle	R.OM	VIN+DAN
22	ctx_G_and_S_cingul-Mid-Post	L.CMP	SMN+DMN	108	ctx_G_occipital_sup	R.OS	VIN+DAN
23	ctx_G_cingul-Post-dorsal	L.CPD	DMN+FPN	109	ctx_G_oc-temp_lat-fusifor	R.TLF	VIN+LBN
24	ctx_G_cingul-Post-ventral	L.CPV	VIN+DMN	110	ctx_G_oc-temp_med-Lingual	R.TML	VIN
25	ctx_G_cuneus	L.CN	VIN	111	ctx_G_oc-temp_med-Parahip	R.TMP	VIN+LBN
26	ctx_G_front_inf-Opercular	L.FIP	VAN+SMA	112	ctx_G_orbital	R.OBG	DMN
27	ctx_G_front_inf-Orbital	L.FIO	DMN+FPN	113	ctx_G_pariet_inf-Angular	R.PIA	DMN
28	ctx_G_front_inf-Triangul	L.FIR	VAN+FPN	114	ctx_G_pariet_inf-Supramar	R.PIS	DMN+FPN
29	ctx_G_front_middle	L.FMG	DMN+FPN	115	ctx_G_parietal_sup	R.PS	DAN
30	ctx_G_front_sup	L.FSG	DMN	116	ctx_G_postcentral	R.POS	SMN
31	ctx_G_Ins_lg_and_S_cent_ins	L.IN	VAN+SMA	117	ctx_G_precentral	R.PRG	SMN
32	ctx_G_insular_short	L.IS	VAN+SMA	118	ctx_G_precuneus	R.PU	DMN+FPN
33	ctx_G_occipital_middle	L.OM	VIN+DAN	119	ctx_G_rectus	R.RT	LBN
34	ctx_G_occipital_sup	L.OS	VIN+DAN	120	ctx_G_subcallosal	R.SC	LBN
35	ctx_G_oc-temp_lat-fusifor	L.TLF	VIN+LBN	121	ctx_G_temp_sup-G_T_transv	R.TT	SMA
36	ctx_G_oc-temp_med-Lingual	L.TML	VIN	122	ctx_G_temp_sup-Lateral	R.TSL	DMN

37	ctx_G_oc-temp_med-Parahip	L.TMP	VIN+LBN	123	ctx_G_temp_sup-Plan_polar	R.TSP	LBN
38	ctx_G_orbital	L.OBG	DMN	124	ctx_G_temp_sup-Plan_tempo	R.TST	DMN+SMA
39	ctx_G_pariet_inf-Angular	L.PIA	DMN	125	ctx_G_temporal_inf	R.TIG	FPN+LBN
40	ctx_G_pariet_inf-Supramar	L.PIS	DMN+FPN	126	ctx_G_temporal_middle	R.TMG	DMN
41	ctx_G_parietal_sup	L.PS	DAN	127	ctx_Lat_Fis-ant-Horizont	R.LFH	DMN
42	ctx_G_postcentral	L.POS	SMN	128	ctx_Lat_Fis-ant-Vertical	R.LFV	VAN
43	ctx_G_precentral	L.PRG	SMN	129	ctx_Lat_Fis-post	R.LFP	SMA
44	ctx_G_precuneus	L.PU	DMN+FPN	130	ctx_Pole_occipital	R.PO	VIN
45	ctx_G_rectus	L.RT	LBN	131	ctx_Pole_temporal	R.PT	LBN
46	ctx_G_subcallosal	L.SC	LBN	132	ctx_S_calcarine	R.CL	VIN
47	ctx_G_temp_sup-G_T_transv	L.TT	SMA	133	ctx_S_central	R.CES	SMN
48	ctx_G_temp_sup-Lateral	L.TSL	DMN	134	ctx_S_cingul-Marginalis	R.CM	SMN
49	ctx_G_temp_sup-Plan_polar	L.TSP	LBN	135	ctx_S_circular_insula_ant	R.CIA	DMN+FPN
50	ctx_G_temp_sup-Plan_tempo	L.TST	DMN+SMA	136	ctx_S_circular_insula_inf	R.CII	VAN
51	ctx_G_temporal_inf	L.TIG	FPN+LBN	137	ctx_S_circular_insula_sup	R.CIS	VAN+SMA
52	ctx_G_temporal_middle	L.TMG	DMN	138	ctx_S_collat_transv_ant	R.CTA	LBN
53	ctx_Lat_Fis-ant-Horizont	L.LFH	DMN	139	ctx_S_collat_transv_post	R.CTP	VIN
54	ctx_Lat_Fis-ant-Vertical	L.LFV	VAN	140	ctx_S_front_inf	R.FIS	FPN
55	ctx_Lat_Fis-post	L.LFP	SMA	141	ctx_S_front_middle	R.FMS	FPN
56	ctx_Pole_occipital	L.PO	VIN	142	ctx_S_front_sup	R.FSS	DMN
57	ctx_Pole_temporal	L.PT	LBN	143	ctx_S_interm_prim-Jensen	R.IPJ	DMN+FPN
58	ctx_S_calcarine	L.CL	VIN	144	ctx_S_intrapariet_and_P_trans	R.IP	DAN

59	ctx_S_central	L.CES	SMN	145	ctx_S_oc_middle_and_Lunatus	R.OML	DAN
60	ctx_S_cingul-Marginalis	L.CM	SMN	146	ctx_S_oc_sup_and_transversal	R.OST	VIN
61	ctx_S_circular_insula_ant	L.CIA	DMN+FPN	147	ctx_S_occipital_ant	R.OA	VIN
62	ctx_S_circular_insula_inf	L.CII	VAN	148	ctx_S_oc-temp_lat	R.TL	VIN
63	ctx_S_circular_insula_sup	L.CIS	VAN+SMA	149	ctx_S_oc-temp_med_and_Lingual	R.TML	VIN+LBN
64	ctx_S_collat_transv_ant	L.CTA	LBN	150	ctx_S_orbital_lateral	R.OL	LBN
65	ctx_S_collat_transv_post	L.CTP	VIN	151	ctx_S_orbital_med-olfact	R.OMO	LBN
66	ctx_S_front_inf	L.FIS	FPN	152	ctx_S_orbital-H_Shaped	R.OHS	LBN
67	ctx_S_front_middle	L.FMS	FPN	153	ctx_S_parieto_occipital	R.PO	VIN
68	ctx_S_front_sup	L.FSS	DMN	154	ctx_S_pericallosal	R.PE	DMN+FPN
69	ctx_S_interm_prim-Jensen	L.IPJ	DMN+FPN	155	ctx_S_postcentral	R.POS	SMN
70	ctx_S_intrapariet_and_P_trans	L.IP	DAN	156	ctx_S_precentral-inf-part	R.PRI	SMN
71	ctx_S_oc_middle_and_Lunatus	L.OML	DAN	157	ctx_S_precentral-sup-part	R.PRS	SMA
72	ctx_S_oc_sup_and_transversal	L.OST	VIN	158	ctx_S_suborbital	R.SO	DMN
73	ctx_S_occipital_ant	L.OA	VIN	159	ctx_S_subparietal	R.SP	DMN
74	ctx_S_oc-temp_lat	L.TL	VIN	160	ctx_S_temporal_inf	R.TIS	DMN
75	ctx_S_oc-temp_med_and_Lingual	L.TML	VIN+LBN	161	ctx_S_temporal_sup	R.TSS	DMN
76	ctx_S_orbital_lateral	L.OL	LBN	162	ctx_S_temporal_transverse	R.TTS	SMA
77	ctx_S_orbital_med-olfact	L.OMO	LBN				
78	ctx_S_orbital-H_Shaped	L.OHS	LBN				
79	ctx_S_parieto_occipital	L.PO	VIN				

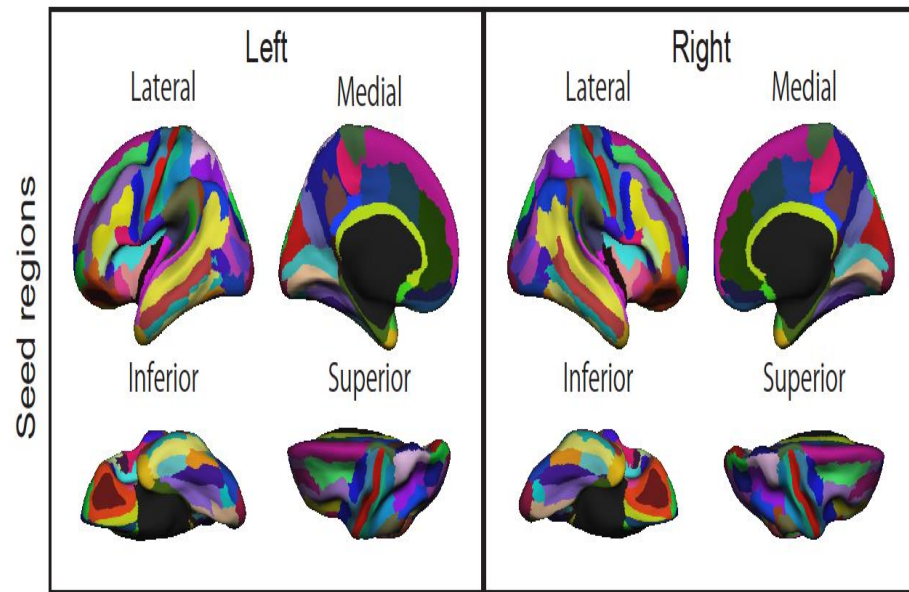
80	ctx_S_pericallosal	L.PE	DMN+FPN
81	ctx_S_postcentral	L.POS	SMN
82	ctx_S_precentral-inf-part	L.PRI	SMN

Abbreviations: ctx: cortex; DAN: dorsal attention network; DMN: default mode network; FPN: fronto-parietal network; G: gyrus; LIB: limbic network; SMA: somamotor network; S: sulcus; VAL: ventral attention network; VIN: visual network;

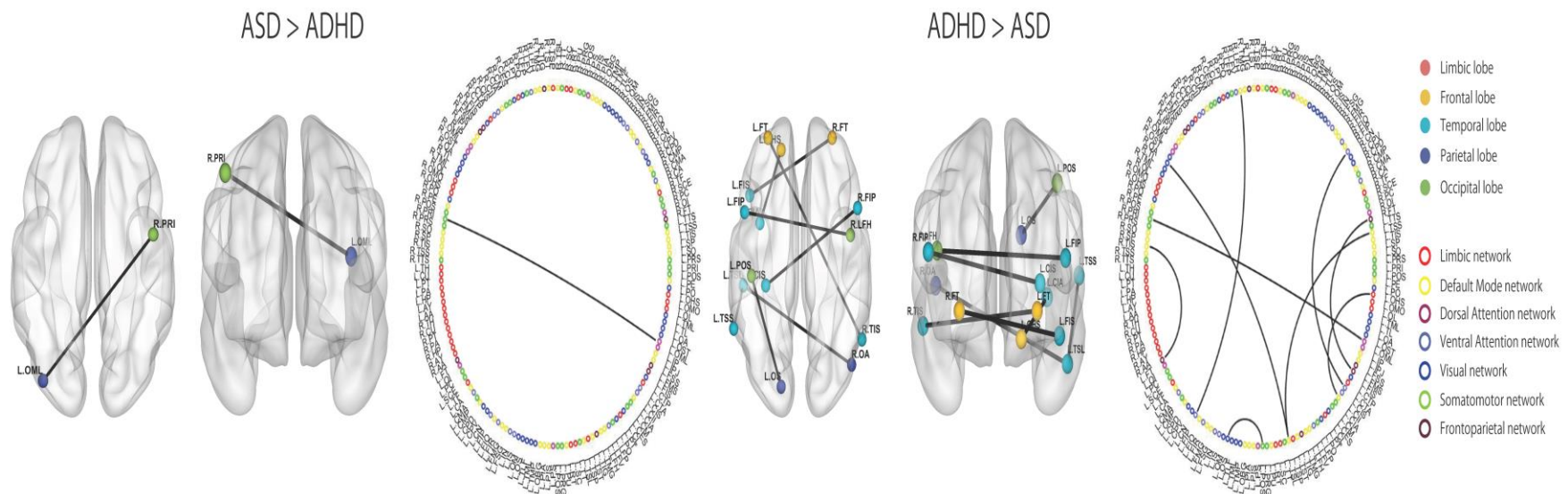
Supplementary Table 2. Association between functional connectivity and core symptom severity

Funtional connectivity	SRS total scores									
	ASD					TD				
	p value	r	F	SE	95% CI	p value	r	F	SE	95% CI
Insula - post transverse collateral sulcus	0.0004	0.376	12.020	23.70	16.89 to 62.68	0.487	0.016	0.490	12.600	-14.36 to 6.881
Orbital gyrus - Anterior horizont cortex	0.0076	0.309	7.754	24.62	10.14 to 61.17	0.249	0.021	1.350	12.500	-3.641 to 13.94

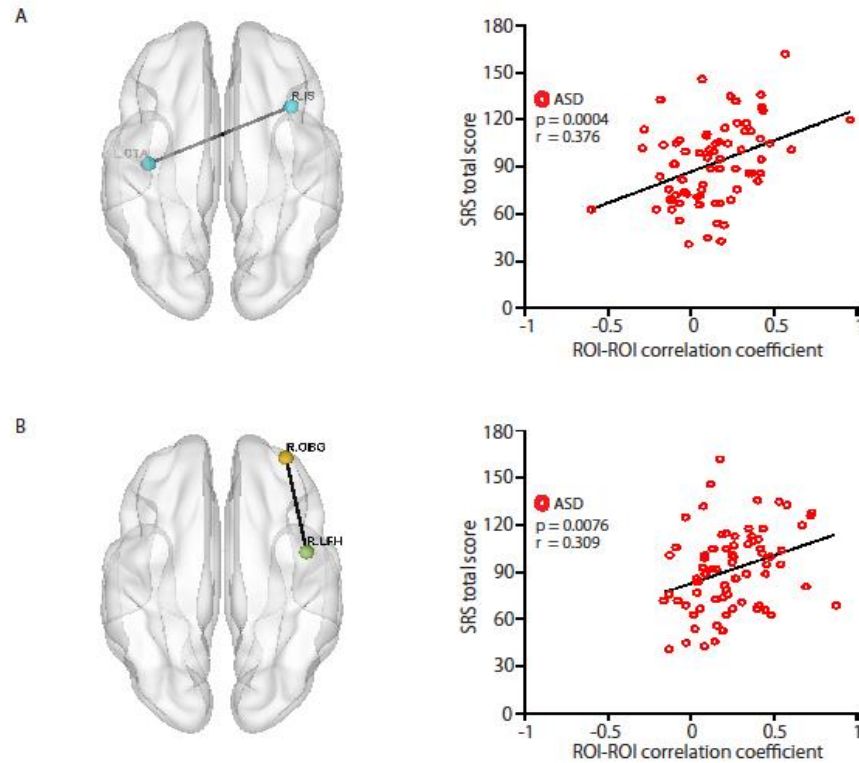
Abbreviations: ASD: autism spectrum disorder; TD: typically developed



**Supplementary Figure 1** Seed regions for gray matter surface parcellation were based on the Desikan–Killiany parcellation atlas. Color in brain map was calculated using parcellation by Freesurfer.



**Supplementary Figure 2** ROI-to-ROI functional connectivity analysis between ASD and ADHD. The ADHD group showed predominantly higher connectivity than the ASD group. Colored circles indicate brain regions. Colored lines indicate networks.



**Supplementary Figure 3** Relationship between functional connectivity and core symptom severity. A: black line indicates functional connectivity between right insula sulcus and post transverse collateral sulcus. Scatter plots showing the correlations of the strength of functional connectivity with SRS total scores (left). B: black line indicates functional connectivity between right orbital gyrus and right anterior horizontal cortex. Scatter plots showing the correlations of the strength of functional connectivity with SRS total scores (left).