Supplementary Material

Electroacupuncture and Manual Acupuncture at LR3 and ST36 Exhibit Attenuating Effects on Hypertension and Followed Cognitive Dysfunction in Spontaneously Hypertensive Rats: A Preliminary Resting State Functional Magnetic Resonance Imaging Study

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**Table S1. Brain regions with decreased ALFF values in SHR group compared to that in WKY group**

|  |  |  |  |
| --- | --- | --- | --- |
| Negative brain regions | Voxel size | *t*-value | Peak MNI coordinate (mm) |
| **X** | **Y** | **Z** |
| Subiculum\_RCornu\_Ammonis\_1\_R | 6 | -4.893 | 38 | -50.05 | -17.8 |
| Dentate\_Gyrus\_LCornu\_Ammonis\_3\_L | 5 | -3.4724 | -28 | -44.05 | -20.8 |
| Entorhinal\_Cortex\_RAmygdalopiriform\_Cortex\_RLateral\_Entorhinal\_Cortex\_external\_part\_R | 13 | -4.1628 | 65 | -32.05 | -8.8 |
| Basal\_Forebrain\_Region\_R | 10 | -5.3944 | 8 | 12.95 | -17.8 |
| Posterior\_Agralunar\_Insular\_Cortex\_LEntorhinal\_Cortex\_LDysgranular\_Insular\_Cortex\_L | 63 | -6.2777 | -58 | -26.05 | 3.2 |
| Dentate\_Gyrus\_R | 11 | -5.6316 | 29 | -62.05 | -11.8 |
| Lateral\_Entorhinal\_Cortex\_RLateral\_Entorhinal\_Cortex\_Internal\_part\_R | 6 | -6.3978 | 74 | -56.05 | -8.8 |
| Subiculum\_LPerirhinal\_Area\_\_LCornu\_Ammonis\_1\_L | 53 | -5.4235 | -58 | -62.05 | 3.2 |
| Corpus\_Callosum\_and\_Associated\_Subcortical\_White\_Matter\_RPerirhinal\_Area\_\_R | 78 | -6.1941 | 62 | -74.05 | 15.2 |
| Basal\_Forebrain\_Regio\_L | 11 | -5.0742 | -1 | 33.95 | -2.8 |
| Periventricular\_Grey\_RBrainstem\_R | 6 | -3.8662 | 5 | -116.05 | 3.2 |
| Parasubiculum\_RPerirhinal\_Area\_R | 12 | -4.6136 | 38 | -65.05 | 3.2 |
| Secondary\_Auditory\_Cortex\_Ventral\_Part\_RPrimary\_Auditory\_Cortex\_R | 20 | -5.8004 | 68 | -38.05 | 12.2 |
| Secondary\_Auditory\_Cortex\_Dorsal\_Part\_RPosterior\_Agralunar\_Insular\_Cortex\_R | 6 | -4.73 | 62 | -26.05 | 3.2 |
| Lateral\_Primary\_Auditory\_Cortex\_RDysgranular\_Insular\_Cortex\_R | 6 | -4.0709 | 65 | -11.05 | 3.2 |
| Descending\_Corticofugal\_Pathways\_and\_Globus\_Pallidum\_RFimbria\_of\_the\_Hippocampus3\_R | 11 | -4.5362 | 44 | -20.05 | 6.2 |
| Granule\_Cell\_Level\_of\_the\_Cerebellum\_L | 29 | -5.4691 | -43 | -92.05 | 9.2 |
| Brainstem\_L | 5 | -3.39 | -19 | -44.05 | 9.2 |
| Corpus\_Callosum\_and\_Associated\_Subcortical\_White\_Matter\_L Descending\_Corticofugal\_Pathways\_and\_Globus\_Pallidum\_LPrimary\_Auditory\_Cortex\_L | 54 | -5.422 | -49 | -23.05 | 18.2 |
| Lateral\_Primary\_Auditory\_Cortex\_LSecondary\_Somatosensory\_Cortex\_L | 11 | -4.6292 | -61 | -5.04999 | 9.2 |
| Primary\_Cingular\_Cortex\_RPreLimbic\_Cortex\_RSeptal\_Region\_L | 84 | -7.0894 | 5 | 27.95 | 24.2 |
| Olfactory\_Bulb\_R | 9 | -4.0207 | 8 | 51.95 | 12.2 |
| Hypothalamic\_Region\_RAnterior\_Commissure\_Intrabulbar\_part\_R | 12 | -5.0571 | 11 | 66.95 | 9.2 |
| Parasubiculum\_LPerirhinal\_Area\_35\_L | 51 | -5.4631 | -43 | -53.05 | 33.2 |
| Granule\_Cell\_Level\_of\_the\_Cerebellum\_L | 5 | -3.7838 | 20-16 | -122.05 | 15.2 |
| Molecular\_Layer\_of\_the\_Cerebellum\_L | 5 | -4.6005 | -58 | -125.05 | 18.2 |
| Molecular\_Layer\_of\_the\_Cerebellum\_RGranule\_Cell\_Level\_of\_the\_Cerebellum\_R | 16 | -5.7014 | 20 | -95.05 | 21.2 |
| Primary\_Somatosensory\_Cortex\_Upperlips\_RPrimary\_Somatosensory\_Cortex\_Barrel\_field\_R | 33 | -4.972 | 50 | -20.05 | 24.2 |
| Agranular\_Insular\_Cortex\_R | 17 | -5.9332 | 35 | 24.95 | 21.2 |
| Perirhinal\_Area\_36\_L | 7 | -3.5726 | -46 | -80.05 | 24.2 |
| Thalamus\_\_L | 5 | -3.5593 | -34 | -35.05 | 21.2 |
| Cornu\_Ammonis\_3\_R | 11 | -3.699 | 41 | -59.05 | 27.2 |
| Ectorhinal\_Cortex\_R | 6 | -3.9494 | 68 | -80.05 | 27.2 |
| Superficial\_Gray\_Layer\_of\_the\_Superior\_Colliculus\_LDeeper\_Layers\_of\_the\_Superior\_Colliculus\_L | 16 | -3.8346 | -25 | -56.05 | 24.2 |
| Ventral\_Hippocampal\_Commissure\_RVentral\_Hippocampal\_Commissure\_L | 15 | -5.7001 | 2 | -11.05 | 27.2 |
| Striatum\_R | 5 | -3.8516 | 29 | 6.95001 | 24.2 |
| Pretectal\_Region\_L | 6 | -3.608 | -1 | -44.05 | 27.2 |
| Thalamus\_\_RFimbria\_of\_the\_Hippocampus2\_R | 5 | -3.7742 | 35 | -29.05 | 27.2 |
| Primary\_Motor\_Cortex\_LOrbitofrontal\_Region\_LSecondary\_Cingular\_Cortex\_L | 36 | -6.0273 | -19 | 27.95 | 36.2 |
| Superficial\_Gray\_Layer\_of\_the\_Superior\_Colliculus\_RDeeper\_Layers\_of\_the\_Superior\_Colliculus\_R | 46 | -6.0645 | 26 | -44.05 | 33.2 |
| Glomerular\_Layer\_of\_the\_Olfactory\_Bulb\_R | 18 | -5.5126 | 5 | 81.95 | 36.2 |
| Perirhinal\_Cortex\_LRetosplenial\_Dysgranular\_Cortex\_L | 7 | -4.1667 | -46 | -95.05 | 36.2 |
| Retrosplenial\_Granular\_Cortex\_Part\_A\_LRetrosplenial\_Granular\_Cortex\_Part\_A\_RExternal\_Cortex\_of\_the\_Inferior\_Colliculus\_\_R | 239 | -7.9096 | 14 | -80.05 | 57.2 |
| Superficial\_Gray\_Layer\_of\_the\_Superior\_Colliculus\_L | 6 | -5.5498 | -22 | -50.05 | 36.2 |
| Primary\_Somatosensory\_Cortex\_Forelimb\_RPrimary\_Somatosensory\_Cortex\_Barrel\_field\_R | 28 | -5.0772 | 35 | -2.04999 | 42.2 |
| Corpus\_Callosum\_and\_Associated\_Subcortical\_White\_Matter\_LStriatum\_L | 5 | -4.6233 | -22 | 15.95 | 33.2 |
| Primary\_Somatosensory\_Cortex\_Jaw\_ROrbitofrontal\_Region\_R | 6 | -4.6077 | 32 | 33.95 | 33.2 |
| Frontal\_Association\_Cortex\_LFrontal\_Association\_Cortex\_R | 23 | -3.9182 | 5 | 57.95 | 36.2 |
| Molecular\_Layer\_of\_the\_Cerebellum\_RPerirhinal\_Cortex\_R | 5 | -3.8137 | 47 | -98.05 | 39.2 |
| Secondary\_Cingular\_Cortex\_R | 6 | -4.0323 | 11 | 9.95001 | 39.2 |
| Primary\_Motor\_Cortex\_L | 12 | -4.7501 | -25 | 15.95 | 45.2 |
| Molecular\_Layer\_of\_the\_Cerebellum\_L | 26 | -4.8878 | -40 | -140.05 | 45.2 |
| Primary\_Somatosensory\_Cortex\_Forelimb\_RPrimary\_Somatosensory\_Cortex\_Dysgranular\_R | 9 | -4.461 | 35 | 24.95 | 42.2 |
| Molecular\_Layer\_of\_the\_Cerebellum\_L | 8 | -4.7136 | -37 | -113.05 | 51.2 |
| Primary\_Visual\_Cortex\_Monocular\_Area\_LPrimary\_Visual\_Cortex\_Binocular\_Area\_L | 38 | -5.6486 | -25 | -95.05 | 54.2 |
| Lateral\_Secondary\_Visual\_Cortex\_R | 6 | -4.1295 | 65 | -68.05 | 48.2 |
| Olfactory\_Bulb\_L | 5 | -3.8996 | -4 | 84.95 | 48.2 |
| Primary\_Somatosensory\_Cortex\_Barrel\_field\_L | 5 | -3.6389 | -55 | -11.05 | 51.2 |
| Primary\_Visual\_Cortex\_Binocular\_Area\_L | 12 | -4.4264 | -46 | -77.05 | 60.2 |
| Primary\_Somatosensory\_Cortex\_Forelimb\_LPrimary\_Motor\_Cortex\_L | 10 | -5.7489 | -40 | 27.95 | 57.2 |
| Secondary\_Motor\_Cortex\_L | 5 | -4.3283 | -13 | 54.95 | 57.2 |
| Primary\_Cingular\_Cortex\_L | 15 | -4.4173 | -4 | 18.95 | 18.95 |
| Retosplenial\_Dysgranular\_Cortex\_RRetrosplenial\_Granular\_Cortex\_Part\_B\_R | 5 | -3.7022 | 5 | -50.05 | 63.2 |
| Medial\_Parietal\_Associative\_Cortex\_RPrimary\_Motor\_Cortex\_R | 32 | -6.886 | 8 | -35.05 | 63.2 |
| Retosplenial\_Dysgranular\_Cortex\_L | 17 | -4.8079 | -7 | -20.05 | 63.2 |
| Secondary\_Motor\_Cortex\_RPrimary\_Motor\_Cortex\_R | 7 | -4.6126 | 14 | -14.05 | 63.2 |
| Secondary\_Motor\_Cortex\_R | 11 | -5.0861 | 11 | 36.95 | 63.2 |
| Medial\_Parietal\_Associative\_Cortex\_RLateral\_Parietal\_Associative\_Cortex\_R | 7 | -3.7135 | 23 | -32.05 | 66.2 |
| Medio\_Lateral\_Secondary\_Visual\_Cortex\_LMedio\_Medial\_Secondary\_Visual\_Cortex\_L | 13 | -4.9342 | -22 | -53.05 | 69.2 |

Notes: ALFF, amplitude of low-frequency fluctuation; SHR, model group; WKY, normal control group; L, left; R, right. *p* < 0.005, uncorrected, Cluster > 5.

**Table S2. Brain regions with decreased ReHo values in SHR group compared to that in WKY group**

|  |  |  |  |
| --- | --- | --- | --- |
| Negative brain regions | Voxel size | *t*-value | Peak MNI coordinate (mm) |
| **X** | **Y** | **Z** |
| Hypothalamic\_Region\_L | 5 | -4.1802 | -10 | -26.05 | -32.8 |
| Basal\_Forebrain\_Region\_LOptic\_Tract\_and\_Optic\_Chiasm\_LOptic\_Pathways\_\_L | 57 | -5.4122 | -10 | -5.05 | -20.8 |
| Brainstem\_R | 12 | -4.2465 | 20 | -128.05 | -26.8 |
| Hypothalamic\_Region\_R | 5 | -3.8832 | 11 | -17.05 | -23.8 |
| Basal\_Forebrain\_Region\_ROptic\_Tract\_and\_Optic\_Chiasm\_R | 5 | -4.0046 | 11 | 15.95 | -23.8 |
| Entorhinal\_Cortex\_LAmygdalopiriform\_Cortex\_LPerirhinal\_Cortex\_L | 23 | -6.3441 | -58 | -32.05 | -8.8 |
| Entorhinal\_Cortex\_RBasal\_Forebrain\_Region\_R | 12 | -7.0194 | 44 | -29.05 | -5.8 |
| Basal\_Forebrain\_Region\_L | 5 | -5.1182 | -16 | 15.95 | -20.8 |
| Brainstem\_L | 5 | -4.3769 | -19 | -137.05 | -11.8 |
| Brainstem\_RPeriventricular\_Grey\_RMolecular\_Layer\_of\_the\_Cerebellum\_R | 7 | -4.0246 | 11 | -140.05 | -2.800003 |
| Dentate\_Gyrus\_RParasubiculum\_RPerirhinal\_Area\_35\_R | 14 | -3.9647 | 41 | -59.05 | 3.2 |
| Perirhinal\_Cortex\_RPosterior\_Agralunar\_Insular\_Cortex\_RLateral\_Entorhinal\_Cortex\_R | 5 | -4.0223 | 59 | -29.05 | -2.8 |
| Cornu\_Ammonis\_3\_L | 7 | -3.8081 | -43 | -47.05 | 0.199997 |
| Basal\_Forebrain\_Region\_LBasal\_Forebrain\_Region\_R | 5 | -4.0708 | 2 | 33.95 | -2.8 |
| Striatum\_RCorpus\_Callosum\_and\_Associated\_Subcortical\_White\_Matter\_RFimbria\_of\_the\_Hippocampus3\_R | 103 | -6.7069 | 56 | -23.05 | 9.2 |
| Dysgranular\_Insular\_Cortex\_LLateral\_Primary\_Auditory\_Cortex\_LPosterior\_Agralunar\_Insular\_Cortex\_L | 10 | -6.1032 | -64 | -11.05 | 3.2 |
| Periaqueductal\_Gray\_R | 7 | -4.0579 | 2 | -59.05 | 9.2 |
| Descending\_Corticofugal\_Pathways\_and\_Globus\_Pallidum\_LCorpus\_Callosum\_and\_Associated\_Subcortical\_White\_Matter\_LStriatum\_L | 56 | -6.2959 | -40 | -32.05 | 21.2 |
| Subiculum\_LLateral\_Entorhinal\_Cortex\_LCorpus\_Callosum\_and\_Associated\_Subcortical\_White\_Matter\_L | 14 | -5.0545 | -55 | -71.05 | 9.2 |
| PreLimbic\_Cortex\_LOlfactory\_Bulb\_L | 7 | -6.3227 | -31 | 45.95 | 12.2 |
| Olfactory\_Bulb\_L | 7 | -3.9078 | -28 | 54.95 | 9.2 |
| Thalamus\_\_RFimbria\_of\_the\_Hippocampus\_RCornu\_Ammonis\_3\_R | 38 | -8.061 | 38 | -32.05 | 27.2 |
| Cornu\_Ammonis\_1\_RDentate\_Gyrus\_R | 22 | -7.2776 | 47 | -47.05 | 21.2 |
| Corpus\_Callosum\_and\_Associated\_Subcortical\_White\_Matter\_RPreLimbic\_Cortex\_RPrimary\_Cingular\_Cortex\_R | 158 | -6.7197 | 2 | 18.95 | 21.2 |
| PreLimbic\_Cortex\_LOlfactory\_Bulb\_L | 6 | -4.0511 | -22 | 39.95 | 21.2 |
| PreLimbic\_Cortex\_LCorpus\_Callosum\_and\_Associated\_Subcortical\_White\_Matter\_L | 5 | -4.7014 | -13 | 27.95 | 18.2 |
| Dysgranular\_Insular\_Cortex\_LAgranular\_Insular\_Cortex\_LLateral\_Primary\_Auditory\_Cortex\_L | 5 | -4.575 | -40 | 30.95 | 24.2 |
| Corpus\_Callosum\_and\_Associated\_Subcortical\_White\_Matter\_LPrimary\_Somatosensory\_Cortex\_Barrel\_field\_LPrimary\_Somatosensory\_Cortex\_Upperlips\_L | 6 | -3.6451 | -52 | -11.05 | 24.2 |
| Descending\_Corticofugal\_Pathways\_and\_Globus\_Pallidum\_L | 6 | -5.1706 | -28 | -5.05 | 24.2 |
| Striatum\_R | 5 | -4.6285 | 20 | 15.95 | 21.2 |
| Striatum\_L | 5 | -5.9277 | -19 | 21.95 | 24.2 |
| Agranular\_Insular\_Cortex\_LPrimary\_Somatosensory\_Cortex\_Jaw\_LPrimary\_Somatosensory\_Cortex\_Dysgranular\_L | 8 | -3.7496 | -31 | 36.95 | 33.2 |
| Primary\_Somatosensory\_Cortex\_Dysgranular\_Zone\_RPrimary\_Somatosensory\_Cortex\_Upperlips\_R | 7 | -3.917 | 44 | 18.95 | 30.2 |
| Secondary\_Motor\_Cortex\_ROlfactory\_Bulb\_R | 8 | -4.0337 | 11 | 57.95 | 30.2 |
| Secondary\_Motor\_Cortex\_LOlfactory\_Bulb\_LPreLimbic\_Cortex\_L | 10 | -5.3367 | -4 | 60.95 | 36.2 |
| Olfactory\_Bulb\_LGlomerular\_Layer\_of\_the\_Olfactory\_Bulb\_L | 9 | -4.8249 | -4 | 81.95 | 36.2 |
| Cornu\_Ammonis\_1\_LCorpus\_Callosum\_and\_Associated\_Subcortical\_White\_Matter\_LSubiculum\_L | 9 | -4.8688 | -46 | -71.05 | 36.2 |
| Dentate\_Gyrus\_L | 9 | -6.2605 | -28 | -44.05 | 33.2 |
| Corpus\_Callosum\_and\_Associated\_Subcortical\_White\_Matter\_LPrimary\_Somatosensory\_Cortex\_Forelimb\_LStriatum\_L | 50 | -9.7325 | -34 | -5.05 | 39.2 |
| Molecular\_Layer\_of\_the\_Cerebellum\_L | 5 | -4.1907 | -46 | -98.05 | 39.2 |
| Corpus\_Callosum\_and\_Associated\_Subcortical\_White\_Matter\_LSecondary\_Cingular\_Cortex\_L | 5 | -3.9076 | -13 | 12.95 | 39.2 |
| Primary\_Somatosensory\_Cortex\_Barrel\_field\_LCorpus\_Callosum\_and\_Associated\_Subcortical\_White\_Matter\_LPrimary\_Somatosensory\_Cortex\_Hindlimb\_L | 17 | -4.6895 | -43 | -14.05 | 42.2 |
| Primary\_Motor\_Cortex\_RCorpus\_Callosum\_and\_Associated\_Subcortical\_White\_Matter\_R | 5 | -3.566 | 23 | -2.05 | 48.2 |
| Primary\_Motor\_Cortex\_R | 8 | -4.6277 | 23 | 15.95 | 42.2 |
| Olfactory\_Bulb\_R | 11 | -3.9422 | 5 | 87.95 | 48.2 |
| Primary\_Visual\_Cortex\_Binocular\_Area\_L | 7 | -3.9838 | -40 | -74.05 | 57.2 |
| Primary\_Motor\_Cortex\_LSecondary\_Motor\_Cortex\_L | 6 | -5.039 | -16 | 24.95 | 54.2 |

Notes: ReHo, regional homogeneity; SHR, model group; WKY, normal control group; L, left; R, right. *p* < 0.005, uncorrected, Cluster > 5.

**Table S3. Brain regions with increased ALFF values in EA group compared to that in SHR group**

|  |  |  |  |
| --- | --- | --- | --- |
| Positive brain regions | Voxel size | *t*-value | Peak MNI coordinate (mm) |
| **X** | **Y** | **Z** |
| Fornix\_LOptic\_Pathways\_\_L | 9 | 5.421 | -16 | -20.05 | -14.8 |
| Brainstem\_RMedial\_Lemniscus\_RHypothalamic\_Region\_R | 14 | 4.7799 | 20 | -47.05 | 0.199997 |
| Entorhinal\_Cortex\_RAmygdalopiriform\_Cortex\_R | 5 | 3.6708 | 53 | -38.05 | -14.8 |
| Basal\_Forebrain\_Region\_R | 6 | 3.4507 | 20 | 3.95001 | -14.8 |
| Entorhinal\_Cortex\_RLateral\_Entorhinal\_Cortex\_external\_part\_RPerirhinal\_Cortex\_R | 5 | 3.7421 | 56 | -32.05 | -8.8 |
| Molecular\_Layer\_of\_the\_Cerebellum\_L | 5 | 4.065 | -70 | -116.05 | -5.800003 |
| Thalamus\_\_R | 7 | 4.0062 | 14 | -29.05 | -2.8 |
| Lateral\_Entorhinal\_Cortex\_Internal\_part\_RLateral\_Entorhinal\_Cortex\_R | 5 | 6.317 | 71 | -59.05 | -2.8 |
| Ectorhinal\_Cortex\_LSecondary\_Auditory\_Cortex\_Ventral\_Part\_L | 5 | 5.5302 | -76 | -32.05 | 3.2 |
| Descending\_Corticofugal\_Pathways\_and\_Globus\_Pallidum\_LBasal\_Forebrain\_Region\_L | 5 | 4.1212 | -25 | -2.04999 | 6.2 |
| Lateral\_Primary\_Auditory\_Cortex\_LDysgranular\_Insular\_Cortex\_LSecondary\_Somatosensory\_Cortex\_L | 11 | 7.0799 | -64 | -5.04999 | 6.2 |
| Olfactory\_Bulb\_L | 6 | 4.6934 | -25 | 33.95 | 6.2 |
| Molecular\_Layer\_of\_the\_Cerebellum\_L | 5 | 4.4259 | -43 | -131.05 | 12.2 |
| Primary\_Auditory\_Cortex\_RPreLimbic\_Cortex\_RPrimary\_Somatosensory\_Cortex\_Upperlips\_R | 13 | 5.8672 | 62 | -29.05 | 18.2 |
| Olfactory\_Bulb\_L | 5 | 4.9528 | -10 | 60.95 | 30.2 |
| Molecular\_Layer\_of\_the\_Cerebellum\_LGranule\_Cell\_Level\_of\_the\_Cerebellum\_L | 7 | 4.0051 | -25 | -125.05 | 42.2 |
| Primary\_Somatosensory\_Cortex\_Barrel\_field\_R | 6 | 4.0566 | 65 | -5.04999 | 42.2 |
| Olfactory\_Bulb\_R | 7 | 3.7895 | 8 | 78.95 | 39.2 |
| Molecular\_Layer\_of\_the\_Cerebellum\_R | 6 | 4.6567 | 32 | -131.05 | 42.2 |
| Primary\_Visual\_Cortex\_Binocular\_Area\_LPrimary\_Visual\_Cortex\_Monocular\_Area\_L | 11 | 4.9487 | -37 | -89.05 | 54.2 |
| Primary\_Motor\_Cortex\_R | 13 | 7.9169 | 26 | 27.95 | 57.2 |

Notes: ALFF, amplitude of low-frequecy fluctuation; EA, electroacupuncture group; SHR, model group; L, left; R, right; *p* < 0.005, uncorrected, Cluster > 5.

**Table S4. Brain regions with increased ALFF values in MA group compared to that in SHR group**

|  |  |  |  |
| --- | --- | --- | --- |
| Positive brain regions | Voxel size | *t*-value | Peak MNI coordinate (mm) |
| **X** | **Y** | **Z** |
| Olfactory\_Bulb\_R | 5 | 3.766 | 29 | 30.95 | -8.8 |
| Secondary\_Auditory\_Cortex\_Ventral\_Part\_REntorhinal\_Cortex\_R | 5 | 4.3794 | 62 | -32.05 | 3.2 |
| Descending\_Corticofugal\_Pathways\_and\_Globus\_Pallidum\_L | 5 | 6.038 | -34 | -17.05 | 3.2 |
| Molecular\_Layer\_of\_the\_Cerebellum\_LGranule\_Cell\_Level\_of\_the\_Cerebellum\_L | 6 | 4.7356 | -22 | -95.05 | 18.2 |
| Striatum\_RCorpus\_Callosum\_and\_Associated\_Subcortical\_White\_Matter\_RHypothalamic\_Region\_R | 8 | 5.2354 | 32 | 24.95 | 18.2 |
| Glomerular\_Layer\_of\_the\_Olfactory\_Bulb\_LOlfactory\_Bulb\_L | 5 | 4.3486 | -4 | 96.95 | 24.2 |
| Primary\_Somatosensory\_Cortex\_Jaw\_LPrimary\_Somatosensory\_Cortex\_Dysgranular\_Zone\_\_L | 7 | 4.7816 | -46 | 30.95 | 30.2 |
| Molecular\_Layer\_of\_the\_Cerebellum\_LPerirhinal\_Cortex\_LEctorhinal\_Cortex\_L | 9 | 4.0714 | -49 | -98.05 | 36.2 |
| Granule\_Cell\_Level\_of\_the\_Cerebellum\_L | 5 | 5.2121 | -31 | -116.05 | 39.2 |
| Frontal\_Association\_Cortex\_L | 11 | 6.0107 | -1 | 63.95 | 39.2 |
| Molecular\_Layer\_of\_the\_Cerebellum\_L | 10 | 4.293 | -40 | -128.05 | 45.2 |
| Primary\_Cingular\_Cortex\_R | 5 | 4.7294 | 1 | 6.95001 | 54.2 |

Notes: ALFF, amplitude of low-frequency fluctuation; MA, manual acupuncture group; SHR, model group; L, left; R, right; *p* < 0.005, uncorrected, Cluster > 5.

**Table S5. Brain regions with increased ReHo values in EA group compared to that in SHR group**

|  |  |  |  |
| --- | --- | --- | --- |
| Positive brain regions | Voxel size | *t*-value | Peak MNI coordinate (mm) |
| **X** | **Y** | **Z** |
| Basal\_Forebrain\_Region\_R | 7 | 4.7691 | 23 | -2.05 | -29.8 |
| Brainstem\_R | 8 | 5.3912 | 17 | -128.05 | -23.8 |
| Entorhinal\_Cortex\_R | 6 | 3.3653 | 32 | -8.05 | -23.8 |
| Brainstem\_LMiddle\_Cerebellar\_Peduncle\_\_LInferior\_Olive\_n\_Pyramidal Decusation\_n\_SP5\_L | 5 | 3.7012 | -25 | -74.05 | -17.8 |
| Optic\_Pathways\_\_RFornix\_R | 5 | 3.8479 | 14 | -20.05 | -17.8 |
| Molecular\_Layer\_of\_the\_Cerebellum\_RGranule\_Cell\_Level\_of\_the\_Cerebellum\_R | 5 | 4.6703 | 74 | -116.05 | -2.800003 |
| Brainstem\_LMedial\_Lemniscus\_L | 5 | 4.2382 | -19 | -47.05 | 0.199997 |
| Thalamus\_\_L | 5 | 4.0637 | -19 | -29.05 | -2.8 |
| Striatum\_ROlfactory\_Bulb\_R | 8 | 5.66 | 20 | 30.95 | 0.199997 |
| Brainstem\_R | 5 | 3.3812 | 8 | -53.05 | 0.199997 |
| Descending\_Corticofugal\_Pathways\_and\_Globus\_Pallidum\_R | 5 | 4.7685 | 35 | -14.05 | 9.2 |
| Hypothalamic\_Region\_RCorpus\_Callosum\_and\_Associated\_Subcortical\_White\_Matter\_R | 11 | 4.4459 | 53 | -23.05 | 6.2 |
| Agranular\_Insular\_Cortex\_RDysgranular\_Insular\_Cortex\_R | 6 | 3.965 | 47 | 30.95 | 9.2 |
| Dysgranular\_Insular\_Cortex\_RLateral\_Primary\_Auditory\_Cortex\_RPrimary\_Somatosensory\_Cortex\_Upperlips\_R | 7 | 4.6063 | 59 | 27.95 | 12.2 |
| Striatum\_R | 6 | 4.0965 | 32 | 15.95 | 12.2 |
| Primary\_Auditory\_Cortex\_LPrimary\_Somatosensory\_Cortex\_Upperlips\_LSecondary\_Auditory\_Cortex\_Dorsal\_Part\_L | 5 | 4.0757 | -61 | -26.05 | 18.2 |
| PreLimbic\_Cortex\_RBasal\_Forebrain\_Region\_R | 5 | 4.5639 | 8 | 21.95 | 24.2 |
| Olfactory\_Bulb\_R | 6 | 4.3184 | 26 | 75.95 | 33.2 |
| Molecular\_Layer\_of\_the\_Cerebellum\_L | 5 | 5.1518 | -49 | -131.05 | 39.2 |
| PreLimbic\_Cortex\_R | 5 | 5.1376 | 2 | 42.95 | 33.2 |
| Molecular\_Layer\_of\_the\_Cerebellum\_R | 6 | 3.5676 | 17 | -116.05 | 42.2 |
| Lateral\_Parietal\_Associative\_Cortex\_L | 7 | 4.6557 | -46 | -35.05 | 66.2 |

Notes: ReHo, regional homogeneity; EA, electroacupuncture group; SHR, model group; L, left; R, right; *p* < 0.005, uncorrected, Cluster > 5.

**Table S6. Brain regions with increased ReHo values in MA group compared to that in SHR group**

|  |  |  |  |
| --- | --- | --- | --- |
| Positive brain regions | Voxel size | *t*-value | Peak MNI coordinate (mm) |
| **X** | **Y** | **Z** |
| Basal\_Forebrain\_Region\_REntorhinal\_Cortex\_R | 7 | 4.2082 | 41 | -5.05 | -11.8 |
| Substantia\_Nigra\_RBrainstem\_R | 6 | 4.5707 | 20 | -56.05 | -5.8 |
| Primary\_Auditory\_Cortex\_LHypothalamic\_Region\_REctorhinal\_Cortex\_L | 11 | 4.2562 | -61 | -41.05 | 9.2 |
| Striatum\_RCorpus\_Callosum\_and\_Associated\_Subcortical\_White\_Matter\_RPrimary\_Auditory\_Cortex\_R | 10 | 4.9278 | 56 | -26.05 | 9.2 |
| PreLimbic\_System\_LOlfactory\_Bulb\_L | 6 | 3.9693 | -31 | 45.95 | 12.2 |
| Corpus\_Callosum\_and\_Associated\_Subcortical\_White\_Matter\_LStriatum\_LDysgranular\_Insular\_Cortex\_L | 9 | 4.6709 | -31 | 24.95 | 18.2 |
| Primary\_Somatosensory\_Cortex\_Barrel\_field\_R | 5 | 4.4029 | 56 | -11.05 | 27.2 |
| Olfactory\_Bulb\_R | 5 | 3.6908 | 8 | 87.95 | 39.2 |
| Retrosplenial\_Granular\_Cortex\_Part\_B\_RCorpus\_Callosum\_and\_Associated\_Subcortical\_White\_Matter\_R | 5 | 4.6879 | 2 | -23.05 | 48.2 |
| Primary\_Cingular\_Cortex\_RSecondary\_Motor\_Cortex\_R | 13 | 5.3026 | 8 | 9.95 | 51.2 |

Notes: ReHo, regional homogeneity; MA, manual acupuncture group; SHR, model group; L, left; R, right; *p* < 0.005, uncorrected, Cluster > 5.

**Table S7. The decreased strengths of the FC in SHR group compared to that in WKY group with the HHA.R as the seed**

|  |  |  |  |
| --- | --- | --- | --- |
| Brain regions | Voxel size | *t*-value | Peak MNI coordinate (mm) |
| **X** | **Y** | **Z** |
| Brainstem\_R | 3 | -3.5002 | 5 | -107.05 | -23.8 |
| Entorhinal\_Cortex\_L | 2 | -3.4848 | -46 | -26.05 | -23.8 |
| Basal\_Forebrain\_Region\_R | 4 | -3.765 | 14 | 24.95 | -14.8 |
| Basal\_Forebrain\_Region\_R | 2 | -4.0368 | 26 | -11.05 | -11.8 |
| Brainstem\_L | 3 | -4.2152 | -22 | -41.05 | -8.8 |
| Brainstem\_R | 4 | -4.4487 | 8 | -119.05 | -5.800003 |
| Granule\_Cell\_Level\_of\_the\_Cerebellum\_L | 2 | -3.6025 | -34 | -104.05 | 12.2 |
| Perirhinal\_Area\_36\_L | 2 | -3.4888 | -49 | -77.05 | 15.2 |
| Molecular\_Layer\_of\_the\_Cerebellum\_R | 2 | -4.6536 | 53 | -101.05 | 18.2 |
| Molecular\_Layer\_of\_the\_Cerebellum\_R | 2 | -3.9077 | 38 | -92.05 | 27.2 |
| Molecular\_Layer\_of\_the\_Cerebellum\_L | 2 | -4.0832 | -16 | -143.05 | 33.2 |
| Granule\_Cell\_Level\_of\_the\_Cerebellum\_LMolecular\_Layer\_of\_the\_Cerebellum\_L | 2 | -3.3452 | -7 | -110.05 | 33.2 |
| Deeper\_Layers\_of\_the\_Superior\_Colliculus\_L | 2 | -3.6923 | -25 | -86.05 | 33.2 |
| Molecular\_Layer\_of\_the\_Cerebellum\_L | 2 | -3.6531 | -40 | -134.05 | 36.2 |
| Molecular\_Layer\_of\_the\_Cerebellum\_R | 2 | -3.1506 | 23 | -98.05 | 48.2 |
| Primary\_Somatosensory\_Cortex\_Barrel\_field\_L | 2 | -3.3899 | -52 | -23.05 | 45.2 |
| Secondary\_Motor\_Cortex\_R | 2 | -4.1027 | 11 | 45.95 | 54.2 |

Notes: FC, functional connectivity; SHR, model group; WKY, normal control group; HHA.R, hypothalamic region.R; L, left; R, right. *p* < 0.005, uncorrected, Cluster > 2.

**Table S8. The decreased strengths of the FC in SHR group compared to that in WKY group with the Ent.R as the seed**

|  |  |  |  |
| --- | --- | --- | --- |
| Brain regions | Voxel size | *t*-value | Peak MNI coordinate (mm) |
| **X** | **Y** | **Z** |
| Optic\_Pathways\_\_ROptic\_Tract\_and\_Optic\_Chiasm\_R | 2 | -4.273 | 17 | -17.05 | -23.8 |
| Hypothalamic\_Region\_R | 2 | -3.1137 | 14 | -38.05 | -20.8 |
| Brainstem\_R | 2 | -3.4393 | 5 | -122.05 | -11.8 |
| Brainstem\_L | 2 | -4.4773 | -25 | -122.05 | -11.8 |
| Brainstem\_L | 3 | -5.4705 | -25 | -149.05 | -5.800003 |
| Brainstem\_L | 2 | -3.4427 | -19 | -41.05 | -8.8 |
| Posterior\_Agralunar\_Insular\_Cortex\_L | 2 | -3.8541 | -61 | -5.05 | -2.8 |
| Brainstem\_LMedial\_Lemniscus\_L | 4 | -3.7584 | -16 | -47.05 | 0.199997 |
| Ectorhinal\_Cortex\_L | 2 | -3.5719 | -73 | -35.05 | 0.199997 |
| Granule\_Cell\_Level\_of\_the\_Cerebellum\_L | 2 | -4.1009 | -64 | -113.05 | 6.199997 |
| Granule\_Cell\_Level\_of\_the\_Cerebellum\_R | 3 | -4.7942 | 20 | -98.05 | 12.2 |
| Granule\_Cell\_Level\_of\_the\_Cerebellum\_RMolecular\_Layer\_of\_the\_Cerebellum\_R | 4 | -3.3103 | 38 | -101.05 | 12.2 |
| Ectorhinal\_Cortex\_RLateral\_Entorhinal\_Cortex\_R | 2 | -3.5862 | 74 | -74.05 | 9.2 |
| Striatum\_R | 2 | -3.2977 | 47 | 0.949997 | 12.2 |
| Secondary\_Somatosensory\_Cortex\_R | 2 | -4.6818 | 71 | -2.05 | 18.2 |
| Striatum\_R | 2 | -3.4838 | 32 | 15.95 | 21.2 |
| Molecular\_Layer\_of\_the\_Cerebellum\_R | 2 | -3.4739 | 11 | -134.05 | 27.2 |
| Molecular\_Layer\_of\_the\_Cerebellum\_L | 2 | -4.1242 | -34 | -119.05 | 27.2 |
| Molecular\_Layer\_of\_the\_Cerebellum\_RPerirhinal\_Area\_36\_R | 2 | -3.1908 | 41 | -92.05 | 27.2 |
| Deeper\_Layers\_of\_the\_Superior\_Colliculus\_R | 2 | -4.188 | 20 | -74.05 | 27.2 |
| Dentate\_Gyrus\_RVentral\_Hippocampal\_Commissure\_L | 2 | -3.0272 | 2 | -14.05 | 27.2 |
| Temporal\_Associative\_Cortex\_R | 3 | -4.6056 | 65 | -77.05 | 30.2 |
| Dentate\_Gyrus\_L | 2 | -3.9557 | -13 | -26.05 | 30.2 |
| Cornu\_Ammonis\_1\_RDentate\_Gyrus\_R | 2 | -3.1878 | 11 | -23.05 | 30.2 |
| PreLimbic\_Cortex\_R  | 2 | -3.7246 | 8 | 36.95 | 30.2 |
| Molecular\_Layer\_of\_the\_Cerebellum\_R | 2 | -4.0952 | 14 | -134.05 | 33.2 |
| Primary\_Motor\_Cortex\_RPrimary\_Somatosensory\_Cortex\_Dysgranular\_RPrimary\_Somatosensory\_Cortex\_Forelimb\_R | 3 | -3.6043 | 29 | 15.95 | 39.2 |
| Retrosplenial\_Granular\_Cortex\_Part\_A\_L | 3 | -3.3869 | -16 | -65.05 | 45.2 |
| Lateral\_Secondary\_Visual\_Cortex\_L | 3 | -4.672 | -64 | -68.05 | 51.2 |
| Primary\_Somatosensory\_Cortex\_Barrel\_field\_L | 2 | -3.2652 | -55 | 0.949997 | 51.2 |
| Primary\_Somatosensory\_Cortex\_Dysgranular\_L | 2 | -4.6367 | -52 | 6.95 | 48.2 |
| Primary\_Somatosensory\_Cortex\_Forelimb\_RPrimary\_Somatosensory\_Cortex\_Jaw\_R | 6 | -4.3491 | 41 | 30.95 | 51.2 |
| Corpus\_Callosum\_and\_Associated\_Subcortical\_White\_Matter\_R | 2 | -3.8305 | 26 | -47.05 | 51.2 |
| Retosplenial\_Dysgranular\_Cortex\_RRetrosplenial\_Granular\_Cortex\_Part\_B\_R | 2 | -4.2129 | 2 | -23.05 | 51.2 |
| Molecular\_Layer\_of\_the\_Cerebellum\_R | 2 | -3.6266 | 5 | -134.05 | 54.2 |
| Retosplenial\_Dysgranular\_Cortex\_R | 2 | -3.0743 | 8 | -62.05 | 66.2 |
| Medio\_Lateral\_Secondary\_Visual\_Cortex\_L | 2 | -3.8532 | -31 | -44.05 | 63.2 |

Notes: FC, functional connectivity; SHR, model group; WKY, normal control group; Ent.R, entorhinal cortex.R; L, left; R, right. *p* < 0.005, uncorrected, Cluster > 2.