**Appendix e-1**

**Methods**

*Data acquisition*

MRI datasets of all controls and 46 patients with RE derive from 3T scanners. Datasets of 11 patients were acquired at a 1.5T scanner. All 3D T1-weighted datasets have an isotropic voxel size ≤ 1.1mm. Scans included a T1-weighted magnetization-prepared rapid acquisition gradient echo (MPRAGE) sequence. Structural MRI volumes of 46 patients and 28 controls derive from different 3T scanners collected at the Department of Epileptology, the Department of Radiology and the Department of Neuroradiology of the University Hospital Bonn, using either an 8-channel or a 32-channel head coil. Scan parameters differed between scanners and included the following: TR = [1570 ms, 1660 ms, 8259 ms], TE = [3.42 ms, 2.54 ms, 3.74 ms, 3.60 ms], flip angle = [15, 9, 8, 30], matrix = [256 × 256 pixel, 320 × 320 pixel, 128 x 128 pixel]. FLAIR datasets included both 2D coronar and 3D protocols using different 3T and 1.5T scanners with the following acquisition parameters: Voxel size = [1.0 x 1.0x 1.0 mm³, 0.4 x 0.4 x 3.0 mm³, 0.9 x 0.9 x 3.5 mm³], TR = [5000 ms, 1200 ms, 6000 ms], TE = [388 ms, 140 ms, 100 ms], flip angle = [120, 90, 90], matrix = [256 × 256 pixel, 512 × 512 pixel, 256 x 256 pixel]. In four patients with no FLAIR datasets available, T2-weighted sequences were used with the following parameters: Voxel size = [0.9 x 0.9 x 4.8 mm³, 0.9 x 0.9 x 6.5 mm³, 0.4 x 0.4 x 3.9 mm³, 0.9 x 0.9 x 0.9 mm³], TR = [8920 ms, 9000 ms, 6230 ms, 3000 ms], TE = [130 ms, 98 ms, 111 ms, 120 ms], flip angle = [150, 150, 180, 90], matrix = [256 × 204 pixel, 256 × 256 pixel, 416 x 512 pixel, 256 x 256 pixel].

MRI volumes of 29 controls were externally acquired at a 3T Siemens scanner (Siemens Healthineers, *Erlangen*, *Germany*) at the Charité Universitätsmedizin Berlin using a 64-channel head coil (n = 18) and, as part of the Human Connectome Project,1 from the Washington University - University of Minnesota Consortium using a 32-channel head coil (n = 11). The datasets were acquired with the following parameters: Voxel size = 0.9 x 0.9 x 0.9 mm³, TR = 2300 ms, TE = 2.32 ms, flip angle = 8, matrix = 256 x 256 pixel. In two cases, acquisition parameters differed from the described: voxel size = [0.9 x 0.9 x 0.9 mm³, 0.8 x 0.8 x 0.8 mm³], TR = [5000 ms, 2400 ms], TE = [2.98 ms, 2.12 ms], flip angle = [4, 8], matrix = [240 x 256 pixel, 300 x 320 pixel].

DTI scans of seven patients were acquired at a 3T MAGNETOM Trio® (Siemens Healthineers, *Erlangen*, *Germany*) using a 32-channel receive head coil and 60 diffusion gradient directions with a b-value = 1000 s/mm² and the following parameters: Voxel size 1.72 × 1.72 × 1.7 mm³, TR = [9000 ms, 12000 ms], TE = [87 ms, 100 ms], flip angle = 90°. Six DTI datasets were acquired at different scanners with 32 diffusion gradient directions, a b-value = 1000 s/mm² (n=5) or b-value = 800 s/mm² (n=1) and the following parameters: Voxel size 1.00 × 1.00 × 2.00 mm³, TR = [7042 ms, 12831 ms, 13019 ms, 6923 ms], TE = [60 ms, 61.5 ms, 84 ms, 61 ms], flip angle = 90°.

**References**

1. Van Essen DC, Ugurbil K, Auerbach E, Barch D, Behrens TEJ, Bucholz R, et al. The Human Connectome Project: A data acquisition perspective. NeuroImage. 2012; 62(4):2222–31.