**MESA Exam 6 Ancillary Study 253 Data Set Variable Guide**

Brain MRI – FA Muse

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| --- | --- |
| **Data Set name :** | MESAe6as253\_BMRIFAMuse\_20240108 |
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**MESA Ancillary study #253, Atrial Fibrillation Study**

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See ancillary study publications1,2 in the Reference list for information on ancillary study methods and for examples of how to analyze the brain MRI data. Please acknowledge the Atrial Fibrillation Ancillary Study funding in all publications that use these brain MRI data: R01 HL127659 from the National Heart, Lung, and Blood Institute.

MESA participants from all six field centers who participated in the Atrial Fibrillation ancillary study3,4 at Exam 6 were invited to complete a brain MRI a median (IQR) of 18 (16, 20) months after the Exam 6 visit. This data set contains one record per ancillary study participant (n=1062) who had a brain MRI in March 2018 through August 2019 as part of the Atrial Fibrillation ancillary study. The Brain MRI Reading Center at the University of Pennsylvania provided this Fractional Anisotropy (FA) dataset, which includes FA calculated from axial 2D echo-planar diffusion-tensor imaging (DTI) using automated pipelines5 and reported for MUSE regions of interest (ROIs)6. FA reflects the degree to which water diffusion is limited to a single dimension and is a scalar ranging from 0, indicating equivalent motion in all directions, to 1, indicating motion restricted to a single direction. Decreased white matter (WM) FA is interpreted as indicating reduced WM microstructural integrity, which is a feature of small vessel disease.

QC codes:

The variable qc\_code contains information on quality control issues. The values and their explanations are as follows:

L1 incidental findings detected in initial manual reading; structural brain lesion was present that should not affect regional volumes, either normal or abnormal

L2 incidental findings detected in initial manual reading; structural brain lesion was present that should not affect normal regional volumes, but abnormal volumes may be affected

L3 incidental findings detected in initial manual reading; structural brain lesion was present that may affect both normal and abnormal regional volumes.

QC\_I\_T1\_1 or QC\_I\_T1\_2 scans with image quality issues, such as “missing parts of brain” and “moderate motion”

QC\_I\_DTI\_1 scans with no DTI sequence data available

NA no qc issues

Comments regarding the qc\_code value are found in qc\_note.

Exclusions: for analysis of FA, analysts must exclude scans with the following qc\_codes:

L3 (n=15)

QC\_I\_T1\_1 (n=1)

QC\_I\_T1\_2 (n=1)

QC\_I\_DTI\_1 (n=4)

For these 21 participants, the variable fa\_exclude is set to 1 and all FA variables have been set to missing.

Analysts may also wish to exclude in a sensitivity analyses those with qc\_code = L2 (n=2).

Analysis recommendations: All brain MRI analyses in MESA should be adjusted for field center. For analyses focused on global or lobar WM integrity, use FA variables from this FA MUSE dataset. For analyses of subregions or tracts, it is recommended to use the separate FA Eve dataset. It is not recommended to adjust for total intracranial volume in analyses of FA.

**References**

1. Austin TR, Nasrallah IM, Erus G, Desiderio LM, Chen LY, Greenland P, Harding BN, Hughes TM, Jensen PN, Longstreth WT, Jr., et al. Association of Brain Volumes and White Matter Injury With Race, Ethnicity, and Cardiovascular Risk Factors: The Multi-Ethnic Study of Atherosclerosis. *Journal of the American Heart Association*. 2022;11:e023159. doi: 10.1161/JAHA.121.023159

2. Austin TR, Jensen PN, Nasrallah IM, Habes M, Rashid T, Ware JB. Left Atrial Function and Arrhythmias in Relation to Small Vessel Disease on Brain MRI: the Multi-Ethnic Study of Atherosclerosis. (under review).

3. Heckbert SR, Austin TR, Jensen PN, Chen LY, Post WS, Floyd JS, Soliman EZ, Kronmal RA, Psaty BM. Differences by race/ethnicity in the prevalence of clinically detected and monitor-detected atrial fibrillation: MESA. *Circulation Arrhythmia and electrophysiology*. 2020;13:e007698. doi: 10.1161/CIRCEP.119.007698

4. Heckbert SR, Austin TR, Jensen PN, Floyd JS, Psaty BM, Soliman EZ, Kronmal RA. Yield and consistency of arrhythmia detection with patch electrocardiographic monitoring: The Multi-Ethnic Study of Atherosclerosis. *J Electrocardiol*. 2018;51:997-1002.

5. Haight T, Nick Bryan R, Erus G, Hsieh MK, Davatzikos C, Nasrallah I, D'Esposito M, Jacobs DR, Jr., Lewis C, Schreiner P, et al. White matter microstructure, white matter lesions, and hypertension: An examination of early surrogate markers of vascular-related brain change in midlife. *Neuroimage Clin*. 2018;18:753-761. doi: 10.1016/j.nicl.2018.02.032

6. Doshi J, Erus G, Ou Y, Resnick SM, Gur RC, Gur RE, Satterthwaite TD, Furth S, Davatzikos C, Alzheimer's Neuroimaging I. MUSE: MUlti-atlas region Segmentation utilizing Ensembles of registration algorithms and parameters, and locally optimal atlas selection. *Neuroimage*. 2016;127:186-195. doi: 10.1016/j.neuroimage.2015.11.073

| **Order** | **Variable** | **Variable Description** |
| --- | --- | --- |
| 1 | idno | MESA Participant ID |
| 2 | agebrainmri6c | Age at Exam 6 Brain MRI (years) |
| 3 | brainmri\_tt6c | Time from baseline to Exam 6 brain MRI (days) |
| 4 | fa\_qc\_code | QC Code for FA dataset:  L1 = Incidental findings, level 1  L2 = Incidental findings, level 2  L3 = Incidental findings, level 3  QC\_I\_T1\_1 = Quality control issue at image level  QC\_I\_T1\_2 = Quality control issue at image level  QC\_I\_DTI\_1 = Quality control issue at image level |
| 5 | qc\_note | MRI Reader Note explaining QC code |
| 6 | fa\_exclude | 0 = Include in analysis of FA  1 = Exclude from analysis of FA based on QC Code |
| 7 | fa\_totalroi | Total Regions of Interest  Hemisphere: Both Tissue Segment: gray matter+white matter+ventricle+BS |
| 8 | fa\_gm | Gray Matter  Hemisphere: Both Tissue Segment: gray matter |
| 9 | fa\_wm | Total White Matter  Hemisphere: Both Tissue Segment: white matter |
| 10 | fa\_gm\_l | Gray Matter  Hemisphere: Left Tissue Segment: gray matter |
| 11 | fa\_wm\_l | White Matter  Hemisphere: Left Tissue Segment: white matter |
| 12 | fa\_gm\_r | Gray Matter  Hemisphere: Right Tissue Segment: gray matter |
| 13 | fa\_wm\_r | White Matter  Hemisphere: Right Tissue Segment: white matter |
| 14 | fa\_corpus\_callosum | Corpus callosum  Hemisphere: Both Tissue Segment: white matter |
| 15 | fa\_cerebellum | Cerebellum  Hemisphere: Both Tissue Segment: gray matter+white matter |
| 16 | fa\_deep\_wm\_gm | Deep White Matter + Gray Matter  Hemisphere: Both Tissue Segment: gray matter+white matter |
| 17 | fa\_frontal | Frontal  Hemisphere: Both Tissue Segment: gray matter+white matter |
| 18 | fa\_limbic | Limbic  Hemisphere: Both Tissue Segment: gray matter+white matter |
| 19 | fa\_occipital | Occipital  Hemisphere: Both Tissue Segment: gray matter+white matter |
| 20 | fa\_parietal | Parietal  Hemisphere: Both Tissue Segment: gray matter+white matter |
| 21 | fa\_temporal | Temporal  Hemisphere: Both Tissue Segment: gray matter+white matter |
| 22 | fa\_ventricle | Ventricle  Hemisphere: Both Tissue Segment: ventricle |
| 23 | fa\_cerebellum\_l | Cerebellum  Hemisphere: Left Tissue Segment: gray matter+white matter |
| 24 | fa\_deep\_wm\_gm\_l | Deep White Matter + Gray Matter  Hemisphere: Left Tissue Segment: gray matter+white matter |
| 25 | fa\_frontal\_l | Frontal  Hemisphere: Left Tissue Segment: gray matter+white matter |
| 26 | fa\_limbic\_l | Limbic  Hemisphere: Left Tissue Segment: gray matter+white matter |
| 27 | fa\_occipital\_l | Occipital  Hemisphere: Left Tissue Segment: gray matter+white matter |
| 28 | fa\_parietal\_l | Parietal  Hemisphere: Left Tissue Segment: gray matter+white matter |
| 29 | fa\_temporal\_l | Temporal  Hemisphere: Left Tissue Segment: gray matter+white matter |
| 30 | fa\_ventricle\_l | Ventricle  Hemisphere: Left Tissue Segment: ventricle |
| 31 | fa\_cerebellum\_r | Cerebellum  Hemisphere: Right Tissue Segment: gray matter+white matter |
| 32 | fa\_deep\_wm\_gm\_r | Deep White Matter + Gray Matter  Hemisphere: Right Tissue Segment: gray matter+white matter |
| 33 | fa\_frontal\_r | Frontal  Hemisphere: Right Tissue Segment: gray matter+white matter |
| 34 | fa\_limbic\_r | Limbic  Hemisphere: Right Tissue Segment: gray matter+white matter |
| 35 | fa\_occipital\_r | Occipital  Hemisphere: Right Tissue Segment: gray matter+white matter |
| 36 | fa\_parietal\_r | Parietal  Hemisphere: Right Tissue Segment: gray matter+white matter |
| 37 | fa\_temporal\_r | Temporal  Hemisphere: Right Tissue Segment: gray matter+white matter |
| 38 | fa\_ventricle\_r | Ventricle  Hemisphere: Right Tissue Segment: ventricle |
| 39 | fa\_basal\_ganglia | Basal ganglia  Hemisphere: Both Tissue Segment: gray matter |
| 40 | fa\_deep\_gm | Deep Gray Matter  Hemisphere: Both Tissue Segment: gray matter |
| 41 | fa\_deep\_wm | Deep white matter  Hemisphere: Both Tissue Segment: white matter |
| 42 | fa\_frontal\_gm | Frontal  Hemisphere: Both Tissue Segment: gray matter |
| 43 | fa\_frontal\_wm | Frontal white matter  Hemisphere: Both Tissue Segment: white matter |
| 44 | fa\_limbic\_gm | Limbic  Hemisphere: Both Tissue Segment: gray matter |
| 45 | fa\_occipital\_gm | Occipital  Hemisphere: Both Tissue Segment: gray matter |
| 46 | fa\_occipital\_wm | Occipital white matter  Hemisphere: Both Tissue Segment: white matter |
| 47 | fa\_parietal\_gm | Parietal  Hemisphere: Both Tissue Segment: gray matter |
| 48 | fa\_parietal\_wm | Parietal white matter  Hemisphere: Both Tissue Segment: white matter |
| 49 | fa\_temporal\_gm | Temporal  Hemisphere: Both Tissue Segment: gray matter |
| 50 | fa\_temporal\_wm | Temporal white matter  Hemisphere: Both Tissue Segment: white matter |
| 51 | fa\_basal\_ganglia\_l | Basal ganglia  Hemisphere: Left Tissue Segment: gray matter |
| 52 | fa\_deep\_gm\_l | Deep  Hemisphere: Left Tissue Segment: gray matter |
| 53 | fa\_deep\_wm\_l | Deep white matter  Hemisphere: Left Tissue Segment: white matter |
| 54 | fa\_frontal\_gm\_l | Frontal  Hemisphere: Left Tissue Segment: gray matter |
| 55 | fa\_frontal\_wm\_l | Frontal white matter  Hemisphere: Left Tissue Segment: white matter |
| 56 | fa\_limbic\_gm\_l | Limbic  Hemisphere: Left Tissue Segment: gray matter |
| 57 | fa\_occipital\_gm\_l | Occipital  Hemisphere: Left Tissue Segment: gray matter |
| 58 | fa\_occipital\_wm\_l | Occipital white matter  Hemisphere: Left Tissue Segment: white matter |
| 59 | fa\_parietal\_gm\_l | Parietal gray matter  Hemisphere: Left Tissue Segment: gray matter |
| 60 | fa\_parietal\_wm\_l | Parietal white matter  Hemisphere: Left Tissue Segment: white matter |
| 61 | fa\_temporal\_gm\_l | Temporal Gray Matter  Hemisphere: Left Tissue Segment: gray matter |
| 62 | fa\_temporal\_wm\_l | Temporal White Matter  Hemisphere: Left Tissue Segment: white matter |
| 63 | fa\_basal\_ganglia\_r | Basal Ganglia  Hemisphere: Right Tissue Segment: gray matter |
| 64 | fa\_deep\_gm\_r | Deep gray matter  Hemisphere: Right Tissue Segment: gray matter |
| 65 | fa\_deep\_wm\_r | Deep white matter  Hemisphere: Right Tissue Segment: white matter |
| 66 | fa\_frontal\_gm\_r | Frontal gray matter  Hemisphere: Right Tissue Segment: gray matter |
| 67 | fa\_frontal\_wm\_r | Frontal white matter  Hemisphere: Right Tissue Segment: white matter |
| 68 | fa\_limbic\_gm\_r | Limbic gray matter  Hemisphere: Right Tissue Segment: gray matter |
| 69 | fa\_occipital\_gm\_r | Occipital gray matter  Hemisphere: Right Tissue Segment: gray matter |
| 70 | fa\_occipital\_wm\_r | Occipital white matter  Hemisphere: Right Tissue Segment: white matter |
| 71 | fa\_parietal\_gm\_r | Parietal gray matter  Hemisphere: Right Tissue Segment: gray matter |
| 72 | fa\_parietal\_wm\_r | Parietal white matter  Hemisphere: Right Tissue Segment: white matter |
| 73 | fa\_temporal\_gm\_r | Temporal gray matter  Hemisphere: Right Tissue Segment: gray matter |
| 74 | fa\_temporal\_wm\_r | Temporal white matter  Hemisphere: Right Tissue Segment: white matter |
| 75 | fa\_frontal\_inferior\_gm | Frontal inferior  Hemisphere: Both Tissue Segment: gray matter |
| 76 | fa\_frontal\_insular\_gm | Frontal insular  Hemisphere: Both Tissue Segment: gray matter |
| 77 | fa\_frontal\_lateral\_gm | Frontal lateral  Hemisphere: Both Tissue Segment: gray matter |
| 78 | fa\_frontal\_medial\_gm | Frontal medial  Hemisphere: Both Tissue Segment: gray matter |
| 79 | fa\_frontal\_opercular\_gm | Frontal opercular  Hemisphere: Both Tissue Segment: gray matter |
| 80 | fa\_limbic\_cingulate\_gm | Limbic cingulate  Hemisphere: Both Tissue Segment: gray matter |
| 81 | fa\_limbic\_medialtemporal\_gm | Limbic medialtemporal  Hemisphere: Both Tissue Segment: gray matter |
| 82 | fa\_occipital\_inferior\_gm | Occipital inferior  Hemisphere: Both Tissue Segment: gray matter |
| 83 | fa\_occipital\_lateral\_gm | Occipital lateral  Hemisphere: Both Tissue Segment: gray matter |
| 84 | fa\_occipital\_medial\_gm | Occipital medial  Hemisphere: Both Tissue Segment: gray matter |
| 85 | fa\_parietal\_lateral\_gm | Parietal lateral  Hemisphere: Both Tissue Segment: gray matter |
| 86 | fa\_parietal\_medial\_gm | Parietal medial  Hemisphere: Both Tissue Segment: gray matter |
| 87 | fa\_temporal\_inferior\_gm | Temporal inferior  Hemisphere: Both Tissue Segment: gray matter |
| 88 | fa\_temporal\_lateral\_gm | Tempora llateral  Hemisphere: Both Tissue Segment: gray matter |
| 89 | fa\_temporal\_supratemporal\_gm | Temporal supratemporal  Hemisphere: Both Tissue Segment: gray matter |
| 90 | fa\_frontal\_inferior\_gm\_l | Frontal inferior  Hemisphere: Left Tissue Segment: gray matter |
| 91 | fa\_frontal\_insular\_gm\_l | Frontal insular  Hemisphere: Left Tissue Segment: gray matter |
| 92 | fa\_frontal\_lateral\_gm\_l | Frontal lateral  Hemisphere: Left Tissue Segment: gray matter |
| 93 | fa\_frontal\_medial\_gm\_l | Frontal medial  Hemisphere: Left Tissue Segment: gray matter |
| 94 | fa\_frontal\_opercular\_gm\_l | Frontal opercular  Hemisphere: Left Tissue Segment: gray matter |
| 95 | fa\_limbic\_cingulate\_gm\_l | Limbic cingulate  Hemisphere: Left Tissue Segment: gray matter |
| 96 | fa\_limbic\_medialtemporal\_gm\_l | Limbic medialtemporal  Hemisphere: Left Tissue Segment: gray matter |
| 97 | fa\_occipital\_inferior\_gm\_l | Occipital inferior  Hemisphere: Left Tissue Segment: gray matter |
| 98 | fa\_occipital\_lateral\_gm\_l | Occipital lateral  Hemisphere: Left Tissue Segment: gray matter |
| 99 | fa\_occipital\_medial\_gm\_l | Occipital medial  Hemisphere: Left Tissue Segment: gray matter |
| 100 | fa\_parietal\_lateral\_gm\_l | Parietal lateral  Hemisphere: Left Tissue Segment: gray matter |
| 101 | fa\_parietal\_medial\_gm\_l | Parietal medial  Hemisphere: Left Tissue Segment: gray matter |
| 102 | fa\_temporal\_inferior\_gm\_l | Temporal inferior  Hemisphere: Left Tissue Segment: gray matter |
| 103 | fa\_temporal\_lateral\_gm\_l | Temporal lateral  Hemisphere: Left Tissue Segment: gray matter |
| 104 | fa\_temporal\_supratemporal\_gm\_l | Temporal supratemporal  Hemisphere: Left Tissue Segment: gray matter |
| 105 | fa\_frontal\_inferior\_gm\_r | Frontal inferior  Hemisphere: Right Tissue Segment: gray matter |
| 106 | fa\_frontal\_insular\_gm\_r | Frontal insular  Hemisphere: Right Tissue Segment: gray matter |
| 107 | fa\_frontal\_lateral\_gm\_r | Frontal lateral  Hemisphere: Right Tissue Segment: gray matter |
| 108 | fa\_frontal\_medial\_gm\_r | Frontal medial  Hemisphere: Right Tissue Segment: gray matter |
| 109 | fa\_frontal\_opercular\_gm\_r | Frontal opercular  Hemisphere: Right Tissue Segment: gray matter |
| 110 | fa\_limbic\_cingulate\_gm\_r | Limbic cingulate  Hemisphere: Right Tissue Segment: gray matter |
| 111 | fa\_limbic\_medialtemporal\_gm\_r | Limbic medialtemporal  Hemisphere: Right Tissue Segment: gray matter |
| 112 | fa\_occipital\_inferior\_gm\_r | Occipital inferior  Hemisphere: Right Tissue Segment: gray matter |
| 113 | fa\_occipital\_lateral\_gm\_r | Occipital lateral  Hemisphere: Right Tissue Segment: gray matter |
| 114 | fa\_occipital\_medial\_gm\_r | Occipital medial  Hemisphere: Right Tissue Segment: gray matter |
| 115 | fa\_parietal\_lateral\_gm\_r | Parietal lateral  Hemisphere: Right Tissue Segment: gray matter |
| 116 | fa\_parietal\_medial\_gm\_r | Parietal medial  Hemisphere: Right Tissue Segment: gray matter |
| 117 | fa\_temporal\_inferior\_gm\_r | Temporal inferior  Hemisphere: Right Tissue Segment: gray matter |
| 118 | fa\_temporal\_lateral\_gm\_r | Temporal lateral  Hemisphere: Right Tissue Segment: gray matter |
| 119 | fa\_temporal\_supratemporal\_gm\_r | Temporal supratemporal  Hemisphere: Right Tissue Segment: gray matter |
| 120 | fa\_thirdventricle | 3rd ventricle  Hemisphere: Both Tissue Segment: ventricle |
| 121 | fa\_fourthventricle | 4th ventricle  Hemisphere: Both Tissue Segment: ventricle |
| 122 | fa\_rightaccumbensarea | Right accumbens area  Hemisphere: Right Tissue Segment: gray matter |
| 123 | fa\_leftaccumbensarea | Left accumbens area  Hemisphere: Left Tissue Segment: gray matter |
| 124 | fa\_rightamygdala | Right amygdala  Hemisphere: Right Tissue Segment: gray matter |
| 125 | fa\_leftamygdala | Left amygdala  Hemisphere: Left Tissue Segment: gray matter |
| 126 | fa\_brainstem | Brain stem  Hemisphere: Both Tissue Segment: NONE |
| 127 | fa\_rightcaudate | Right caudate  Hemisphere: Right Tissue Segment: gray matter |
| 128 | fa\_leftcaudate | Left caudate  Hemisphere: Left Tissue Segment: gray matter |
| 129 | fa\_rightcerebellumexterior | Right cerebellum exterior  Hemisphere: Right Tissue Segment: gray matter |
| 130 | fa\_leftcerebellumexterior | Left cerebellum exterior  Hemisphere: Left Tissue Segment: gray matter |
| 131 | fa\_rightcerebellumwhitematter | Right cerebellum white matter  Hemisphere: Right Tissue Segment: white matter |
| 132 | fa\_leftcerebellumwhitematter | Left cerebellum white matter  Hemisphere: Left Tissue Segment: white matter |
| 133 | fa\_righthippocampus | Right hippocampus  Hemisphere: Right Tissue Segment: gray matter |
| 134 | fa\_lefthippocampus | Left hippocampus  Hemisphere: Left Tissue Segment: gray matter |
| 135 | fa\_rightinflatvent | Right inf lat vent  Hemisphere: Right Tissue Segment: ventricle |
| 136 | fa\_leftinflatvent | Left inf lat vent  Hemisphere: Left Tissue Segment: ventricle |
| 137 | fa\_rightlateralventricle | Right lateral ventricle  Hemisphere: Right Tissue Segment: ventricle |
| 138 | fa\_leftlateralventricle | Left lateral ventricle  Hemisphere: Left Tissue Segment: ventricle |
| 139 | fa\_rightpallidum | Right pallidum  Hemisphere: Right Tissue Segment: gray matter |
| 140 | fa\_leftpallidum | Left pallidum  Hemisphere: Left Tissue Segment: gray matter |
| 141 | fa\_rightputamen | Right putamen  Hemisphere: Right Tissue Segment: gray matter |
| 142 | fa\_leftputamen | Left putamen  Hemisphere: Left Tissue Segment: gray matter |
| 143 | fa\_rightthalamusproper | Right thalamus proper  Hemisphere: Right Tissue Segment: gray matter |
| 144 | fa\_leftthalamusproper | Left thalamus proper  Hemisphere: Left Tissue Segment: gray matter |
| 145 | fa\_rightventraldc | Right ventral dc  Hemisphere: Right Tissue Segment: white matter |
| 146 | fa\_leftventraldc | Left ventral dc  Hemisphere: Left Tissue Segment: white matter |
| 147 | fa\_cerebellarvermallobulesiv | Cerebellar vermal lobules i-v  Hemisphere: Both Tissue Segment: gray matter |
| 148 | fa\_cerebellarvermallobulesvivii | Cerebellar vermal lobules vi-vii  Hemisphere: Both Tissue Segment: gray matter |
| 149 | fa\_cerebellarvermallobulesviiix | Cerebellar vermal lobules viii-x  Hemisphere: Both Tissue Segment: gray matter |
| 150 | fa\_leftbasalforebrain | Left basal forebrain  Hemisphere: Left Tissue Segment: gray matter |
| 151 | fa\_rightbasalforebrain | Right basal forebrain  Hemisphere: Right Tissue Segment: gray matter |
| 152 | fa\_frontallobewmright | Frontal lobe wm right  Hemisphere: Right Tissue Segment: white matter |
| 153 | fa\_frontallobewmleft | Frontal lobe wm left  Hemisphere: Left Tissue Segment: white matter |
| 154 | fa\_occipitallobewmright | Occipital lobe wm right  Hemisphere: Right Tissue Segment: white matter |
| 155 | fa\_occipitallobewmleft | Occipital lobe wm left  Hemisphere: Left Tissue Segment: white matter |
| 156 | fa\_parietallobewmright | Parietal lobe wm right  Hemisphere: Right Tissue Segment: white matter |
| 157 | fa\_parietallobewmleft | Parietal lobe wm left  Hemisphere: Left Tissue Segment: white matter |
| 158 | fa\_temporallobewmright | Temporal lobe wm right  Hemisphere: Right Tissue Segment: white matter |
| 159 | fa\_temporallobewmleft | Temporal lobe wm left  Hemisphere: Left Tissue Segment: white matter |
| 160 | fa\_fornixright | Fornix right  Hemisphere: Right Tissue Segment: white matter |
| 161 | fa\_fornixleft | Fornix left  Hemisphere: Left Tissue Segment: white matter |
| 162 | fa\_anteriorlimbinternalcapsuleri | Anterior limb of internal capsule right  Hemisphere: Right Tissue Segment: white matter |
| 163 | fa\_anteriorlimbinternalcapsulele | Anterior limb of internal capsule left  Hemisphere: Left Tissue Segment: white matter |
| 164 | fa\_postlimbofintcapscerebpedrigh | Posterior limb of internal capsule inc. cerebral peduncle right  Hemisphere: Right Tissue Segment: white matter |
| 165 | fa\_postlimbofintcapscerebpedleft | Posterior limb of internal capsule inc. cerebral peduncle left  Hemisphere: Left Tissue Segment: white matter |
| 166 | fa\_corpuscallosum | Corpus callosum  Hemisphere: Both Tissue Segment: white matter |
| 167 | fa\_rightacgganteriorcingulategyr | Right anterior cingulate gyrus  Hemisphere: Right Tissue Segment: gray matter |
| 168 | fa\_leftacgganteriorcingulategyru | Left anterior cingulate gyrus  Hemisphere: Left Tissue Segment: gray matter |
| 169 | fa\_rightainsanteriorinsula | Right anterior insula  Hemisphere: Right Tissue Segment: gray matter |
| 170 | fa\_leftainsanteriorinsula | Left anterior insula  Hemisphere: Left Tissue Segment: gray matter |
| 171 | fa\_rightaorganteriororbitalgyrus | Right anterior orbital gyrus  Hemisphere: Right Tissue Segment: gray matter |
| 172 | fa\_leftaorganteriororbitalgyrus | Left anterior orbital gyrus  Hemisphere: Left Tissue Segment: gray matter |
| 173 | fa\_rightangangulargyrus | Right angular gyrus  Hemisphere: Right Tissue Segment: gray matter |
| 174 | fa\_leftangangulargyrus | Left angular gyrus  Hemisphere: Left Tissue Segment: gray matter |
| 175 | fa\_rightcalccalcarinecortex | Right calcarine cortex  Hemisphere: Right Tissue Segment: gray matter |
| 176 | fa\_leftcalccalcarinecortex | Left calcarine cortex  Hemisphere: Left Tissue Segment: gray matter |
| 177 | fa\_rightcocentraloperculum | Right central operculum  Hemisphere: Right Tissue Segment: gray matter |
| 178 | fa\_leftcocentraloperculum | Left central operculum  Hemisphere: Left Tissue Segment: gray matter |
| 179 | fa\_rightcuncuneus | Right cuneus  Hemisphere: Right Tissue Segment: gray matter |
| 180 | fa\_leftcuncuneus | Left cuneus  Hemisphere: Left Tissue Segment: gray matter |
| 181 | fa\_rightententorhinalarea | Right entorhinal area  Hemisphere: Right Tissue Segment: gray matter |
| 182 | fa\_leftententorhinalarea | Left entorhinal area  Hemisphere: Left Tissue Segment: gray matter |
| 183 | fa\_rightfofrontaloperculum | Right frontal operculum  Hemisphere: Right Tissue Segment: gray matter |
| 184 | fa\_leftfofrontaloperculum | Left frontal operculum  Hemisphere: Left Tissue Segment: gray matter |
| 185 | fa\_rightfrpfrontalpole | Right frontal pole  Hemisphere: Right Tissue Segment: gray matter |
| 186 | fa\_leftfrpfrontalpole | Left frontal pole  Hemisphere: Left Tissue Segment: gray matter |
| 187 | fa\_rightfugfusiformgyrus | Right fusiform gyrus  Hemisphere: Right Tissue Segment: gray matter |
| 188 | fa\_leftfugfusiformgyrus | Left fusiform gyrus  Hemisphere: Left Tissue Segment: gray matter |
| 189 | fa\_rightgregyrusrectus | Right gyrus rectus  Hemisphere: Right Tissue Segment: gray matter |
| 190 | fa\_leftgregyrusrectus | Left gyrus rectus  Hemisphere: Left Tissue Segment: gray matter |
| 191 | fa\_rightioginferioroccipitalgyru | Right inferior occipital gyrus  Hemisphere: Right Tissue Segment: gray matter |
| 192 | fa\_leftioginferioroccipitalgyrus | Left inferior occipital gyrus  Hemisphere: Left Tissue Segment: gray matter |
| 193 | fa\_rightitginferiortemporalgyrus | Right inferior temporal gyrus  Hemisphere: Right Tissue Segment: gray matter |
| 194 | fa\_leftitginferiortemporalgyrus | Left inferior temporal gyrus  Hemisphere: Left Tissue Segment: gray matter |
| 195 | fa\_rightliglingualgyrus | Right lingual gyrus  Hemisphere: Right Tissue Segment: gray matter |
| 196 | fa\_leftliglingualgyrus | Left lingual gyrus  Hemisphere: Left Tissue Segment: gray matter |
| 197 | fa\_rightlorglateralorbitalgyrus | Right lateral orbital gyrus  Hemisphere: Right Tissue Segment: gray matter |
| 198 | fa\_leftlorglateralorbitalgyrus | Left lateral orbital gyrus  Hemisphere: Left Tissue Segment: gray matter |
| 199 | fa\_rightmcggmiddlecingulategyrus | Right middle cingulate gyrus  Hemisphere: Right Tissue Segment: gray matter |
| 200 | fa\_leftmcggmiddlecingulategyrus | Left middle cingulate gyrus  Hemisphere: Left Tissue Segment: gray matter |
| 201 | fa\_rightmfcmedialfrontalcortex | Right medial frontal cortex  Hemisphere: Right Tissue Segment: gray matter |
| 202 | fa\_leftmfcmedialfrontalcortex | Left medial frontal cortex  Hemisphere: Left Tissue Segment: gray matter |
| 203 | fa\_rightmfgmiddlefrontalgyrus | Right middle frontal gyrus  Hemisphere: Right Tissue Segment: gray matter |
| 204 | fa\_leftmfgmiddlefrontalgyrus | Left middle frontal gyrus  Hemisphere: Left Tissue Segment: gray matter |
| 205 | fa\_rightmogmiddleoccipitalgyrus | Right middle occipital gyrus  Hemisphere: Right Tissue Segment: gray matter |
| 206 | fa\_leftmogmiddleoccipitalgyrus | Left middle occipital gyrus  Hemisphere: Left Tissue Segment: gray matter |
| 207 | fa\_rightmorgmedialorbitalgyrus | Right medial orbital gyrus  Hemisphere: Right Tissue Segment: gray matter |
| 208 | fa\_leftmorgmedialorbitalgyrus | Left medial orbital gyrus  Hemisphere: Left Tissue Segment: gray matter |
| 209 | fa\_rightmpogpostcentralgyrusmeds | Right postcentral gyrus medial segment  Hemisphere: Right Tissue Segment: gray matter |
| 210 | fa\_leftmpogpostcentralgyrusmedse | Left postcentral gyrus medial segment  Hemisphere: Left Tissue Segment: gray matter |
| 211 | fa\_rightmprgprecentralgyrusmedse | Right precentral gyrus medial segment  Hemisphere: Right Tissue Segment: gray matter |
| 212 | fa\_leftmprgprecentralgyrusmedseg | Left precentral gyrus medial segment  Hemisphere: Left Tissue Segment: gray matter |
| 213 | fa\_rightmsfgsuperfrontgyrusmedse | Right superior frontal gyrus medial segment  Hemisphere: Right Tissue Segment: gray matter |
| 214 | fa\_leftmsfgsuperfrontgyrusmedseg | Left superior frontal gyrus medial segment  Hemisphere: Left Tissue Segment: gray matter |
| 215 | fa\_rightmtgmiddletemporalgyrus | Right middle temporal gyrus  Hemisphere: Right Tissue Segment: gray matter |
| 216 | fa\_leftmtgmiddletemporalgyrus | Left middle temporal gyrus  Hemisphere: Left Tissue Segment: gray matter |
| 217 | fa\_rightocpoccipitalpole | Right occipital pole  Hemisphere: Right Tissue Segment: gray matter |
| 218 | fa\_leftocpoccipitalpole | Left occipital pole  Hemisphere: Left Tissue Segment: gray matter |
| 219 | fa\_rightofugoccipitalfusiformgyr | Right occipital fusiform gyrus  Hemisphere: Right Tissue Segment: gray matter |
| 220 | fa\_leftofugoccipitalfusiformgyru | Left occipital fusiform gyrus  Hemisphere: Left Tissue Segment: gray matter |
| 221 | fa\_rightopifgoperpartinffrontgyr | Right opercular part of the inferior frontal gyrus  Hemisphere: Right Tissue Segment: gray matter |
| 222 | fa\_leftopifgoperpartinffrontgyru | Left opercular part of the inferior frontal gyrus  Hemisphere: Left Tissue Segment: gray matter |
| 223 | fa\_rightorifgorbitalinffrontalgyr | Right orbital part of the inferior frontal gyrus  Hemisphere: Right Tissue Segment: gray matter |
| 224 | fa\_leftorifgorbitalinffrontalgyr | Left orbital part of the inferior frontal gyrus  Hemisphere: Left Tissue Segment: gray matter |
| 225 | fa\_rightpcggposteriorcingulategy | Right posterior cingulate gyrus  Hemisphere: Right Tissue Segment: gray matter |
| 226 | fa\_leftpcggposteriorcingulategyr | Left posterior cingulate gyrus  Hemisphere: Left Tissue Segment: gray matter |
| 227 | fa\_rightpcuprecuneus | Right precuneus  Hemisphere: Right Tissue Segment: gray matter |
| 228 | fa\_leftpcuprecuneus | Left precuneus  Hemisphere: Left Tissue Segment: gray matter |
| 229 | fa\_rightphgparahippocampalgyrus | Right parahippocampal gyrus  Hemisphere: Right Tissue Segment: gray matter |
| 230 | fa\_leftphgparahippocampalgyrus | Left parahippocampal gyrus  Hemisphere: Left Tissue Segment: gray matter |
| 231 | fa\_rightpinsposteriorinsula | Right posterior insula  Hemisphere: Right Tissue Segment: gray matter |
| 232 | fa\_leftpinsposteriorinsula | Left posterior insula  Hemisphere: Left Tissue Segment: gray matter |
| 233 | fa\_rightpoparietaloperculum | Right parietal operculum  Hemisphere: Right Tissue Segment: gray matter |
| 234 | fa\_leftpoparietaloperculum | Left parietal operculum  Hemisphere: Left Tissue Segment: gray matter |
| 235 | fa\_rightpogpostcentralgyrus | Right postcentral gyrus  Hemisphere: Right Tissue Segment: gray matter |
| 236 | fa\_leftpogpostcentralgyrus | Left postcentral gyrus  Hemisphere: Left Tissue Segment: gray matter |
| 237 | fa\_rightporgposteriororbitalgyru | Right posterior orbital gyrus  Hemisphere: Right Tissue Segment: gray matter |
| 238 | fa\_leftporgposteriororbitalgyrus | Left posterior orbital gyrus  Hemisphere: Left Tissue Segment: gray matter |
| 239 | fa\_rightppplanumpolare | Right planum polare  Hemisphere: Right Tissue Segment: gray matter |
| 240 | fa\_leftppplanumpolare | Left planum polare  Hemisphere: Left Tissue Segment: gray matter |
| 241 | fa\_rightprgprecentralgyrus | Right precentral gyrus  Hemisphere: Right Tissue Segment: gray matter |
| 242 | fa\_leftprgprecentralgyrus | Left precentral gyrus  Hemisphere: Left Tissue Segment: gray matter |
| 243 | fa\_rightptplanumtemporale | Right planum temporale  Hemisphere: Right Tissue Segment: gray matter |
| 244 | fa\_leftptplanumtemporale | Left planum temporale  Hemisphere: Left Tissue Segment: gray matter |
| 245 | fa\_rightscasubcallosalarea | Right subcallosal area  Hemisphere: Right Tissue Segment: gray matter |
| 246 | fa\_leftscasubcallosalarea | Left subcallosal area  Hemisphere: Left Tissue Segment: gray matter |
| 247 | fa\_rightsfgsuperiorfrontalgyrus | Right superior frontal gyrus  Hemisphere: Right Tissue Segment: gray matter |
| 248 | fa\_leftsfgsuperiorfrontalgyrus | Left superior frontal gyrus  Hemisphere: Left Tissue Segment: gray matter |
| 249 | fa\_rightsmcsupplementarymotorcor | Right supplementary motor cortex  Hemisphere: Right Tissue Segment: gray matter |
| 250 | fa\_leftsmcsupplementarymotorcort | Left supplementary motor cortex  Hemisphere: Left Tissue Segment: gray matter |
| 251 | fa\_rightsmgsupramarginalgyrus | right supramarginal gyrus  Hemisphere: Right Tissue Segment: gray matter |
| 252 | fa\_leftsmgsupramarginalgyrus | Left supramarginal gyrus  Hemisphere: Left Tissue Segment: gray matter |
| 253 | fa\_rightsogsuperioroccipitalgyru | Right superior occipital gyrus  Hemisphere: Right Tissue Segment: gray matter |
| 254 | fa\_leftsogsuperioroccipitalgyrus | Left superior occipital gyrus  Hemisphere: Left Tissue Segment: gray matter |
| 255 | fa\_rightsplsuperiorparietallobul | Right superior parietal lobule  Hemisphere: Right Tissue Segment: gray matter |
| 256 | fa\_leftsplsuperiorparietallobule | Left superior parietal lobule  Hemisphere: Left Tissue Segment: gray matter |
| 257 | fa\_rightstgsuperiortemporalgyrus | Right superior temporal gyrus  Hemisphere: Right Tissue Segment: gray matter |
| 258 | fa\_leftstgsuperiortemporalgyrus | Left superior temporal gyrus  Hemisphere: Left Tissue Segment: gray matter |
| 259 | fa\_righttmptemporalpole | Right temporal pole  Hemisphere: Right Tissue Segment: gray matter |
| 260 | fa\_lefttmptemporalpole | Left temporal pole  Hemisphere: Left Tissue Segment: gray matter |
| 261 | fa\_righttrifgtripartinffrontgyrus | Right triangular part of the inferior frontal gyrus  Hemisphere: Right Tissue Segment: gray matter |
| 262 | fa\_lefttrifgtripartinffrontgyrus | Left triangular part of the inferior frontal gyrus  Hemisphere: Left Tissue Segment: gray matter |
| 263 | fa\_rightttgtransversetemporalgyrus | Right transverse temporal gyrus  Hemisphere: Right Tissue Segment: gray matter |
| 264 | fa\_leftttgtransversetemporalgyrus | Left transverse temporal gyrus  Hemisphere: Left Tissue Segment: gray matter |
| 265 | bmri\_fa\_muse\_exam | Exam of ancillary AS253 brain MRI |