Supplementary Online Content


eFigure 1. Clinical Presentations of 103 GFAP-Specific IgG–Positive Patients

eFigure 2. Rostral Migratory Stream

eFigure 3. Additional Brain Magnetic Resonance Images From 2 GFAP-Specific IgG–Positive Patients

eFigure 4. Dual Binding of Patient IgG and Desmin-Specific IgG or Vimentin-Specific IgG

eFigure 5. Patient IgG in GFAP-α–Positive Ependyma

This supplementary material has been provided by the authors to give readers additional information about their work.
Clinical presentations of GFAP-IgG-positive patients identified incidentally through service screening for neural-specific autoantibodies by a standardized mouse tissue-based immunofluorescence assay in the Mayo Clinic Neuroimmunology diagnostic laboratory.

*GFAP specificity confirmed by cell-based recombinant antigen assay;

§16 initially identified cases are subjects of this antigen identification report; ¶87 additional seropositive cases identified in continuing service testing will be subjects of detailed future clinical and histopathological reports.
eFigure 2. Rostral Migratory Stream

IgG in serum of patient with autoimmune GFAP astrocytopathy binds prominently to filamentous elements in rostral migratory stream of adult mouse brain tissue in indirect immunofluorescence image. Ependyma and periventricular astrocytes also are immunoreactive (top and bottom, left). Original magnification 20×.
eFigure 3. Additional Brain Magnetic Resonance Images From 2 GFAP-Specific IgG–Positive Patients

Patient 10 (A): Note punctate periventricular T2 signal abnormality on fluid attenuated inversion recovery (A1) and T1 post gadolinium enhancement (A2); this patient’s spinal cord image is shown in figure 1, G-I. Patient 12 (B): Note hazy periventricular T2 FLAIR signal abnormality (B1) with radial pattern of gadolinium enhancement (B2).
eFigure 4. Dual Binding of Patient IgG and Desmin-Specific IgG or Vimentin-Specific IgG

Dual immunofluorescence staining of mouse tissues by commercial intermediate filament IgGs (red) and patient IgG (green). A. Desmin-IgG co-localized with patient IgG (x10) in
astrocytes of midbrain pia and subpia (yellow in merged figure). Patient IgG did not co-localize with desmin-IgG in smooth muscle fibers of gut (lower one third of A; mucosa at bottom left). B. Vimentin-IgG and patient IgG immunoreactivities (x10) diverged in some CNS parenchymal regions but coincided in pia/subpia (yellow in merged figure). C. Endothelium in hippocampus (arrows, x20) and renal glomeruli (arrows, D x20) were positive only for vimentin. DNA is blue (DAPI stain in merged panels).
**eFigure 5.** Patient IgG in GFAP-α–Positive Ependyma

Dual immunofluorescence staining of mouse brain periventricular region by commercial IgG specific for glial fibrillary acidic protein (GFAP) α isoform (green) and serum IgG of patient with autoimmune GFAP astrocytopathy (red). A. Cytoplasm of ependymocytes as well as subventricular astrocytes are GFAP-α immunoreactive. B. Ependymocytes do not uniformly bind patient IgG. C. Partial co-localization of IgG probes (yellow) is apparent in merged figure. Arrow indicates lack of patient IgG binding to ependyma on right wall of ventricle.