receptor expression might be well suited for use as a biomarker for depression and as a target for novel antidepressant medications. These findings in living subjects, corroborated in postmortem tissue, should encourage studies designed to investigate genetic and environmental influences on mGluR5 and interactions among mGluR5, ionotropic glutamate receptors, and monoaminergic receptor systems in mood and anxiety disorders.

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FIGURE 4. Metabotropic Glutamate Receptor 5 (mGluR5) Protein Levels and mGluR5 Binding Within the Right Frontal Polar Cortex (Brodmann’s area 10)*

* In panel A, the mGluR5 protein levels were normalized to actin, and in panel B, to mGluR5 distribution volume ratio (DVR). Unpaired t tests were used to compare subjects with major depressive disorder with psychiatrically healthy comparison subjects. In panel A, the group means of the mGluR5/actin ratio were 1.25 (SD=0.52) in the comparison group and 0.85 (SD=0.30) in the depression group. In panel B, the group means of the mGluR5 DVR were 1.37 (SD=0.14) in the comparison group and 1.25 (SD=0.08) in the depression group.

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