Post–Traumatic Stress Disorder (PTSD) is a complex psychiatric condition, the effects of which can be seriously debilitating. However, even extremely sensitive tests (> 95%) can have insufficient accuracy if the prevalence of a condition in the tested population is low. Neuroscience is slowly discovering the neural bases of PTSD and other psychiatric ailments and is building tests to distinguish actual patients from non–suffering individuals. We examine the current state of neuroscientific research on PTSD and its biomarkers, focusing on a recent experiment by Apostolos Georgopoulos and coworkers. It is currently one of the most frequently litigated mental diseases.