

Brain cell electrical activity studied

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U.S. researchers say they have discovered a relationship between functional magnetic resonance imaging signals and brain cell electrical activity.

Neuroscientists at the University of California, Los Angeles, and the Weizmann Institute of Science in Israel, say they are the first to demonstrate such a relationship.

At UCLA the research team recorded responses of single brain cells in the auditory cortex of two pre-surgical patients wired with intracranial electrodes as they watched a clip of the 1967 movie, "The Good, the Bad and the Ugly."

They then used the data to accurately predict the configuration of fMRI signals measured in 11 healthy subjects as they watched the same film clip while in a MRI scanner several thousands miles at the Weizmann Institute near Tel Aviv.

Dr. Itzhak Fried, professor-in-residence of neurosurgery, psychiatry and biobehavioral sciences at UCLA's David Geffen School of Medicine, said the findings help validate fMRI use in human neuroscience research. But he said additional research is needed to determine if the correlation between fMRI signals and single neuronal activity also exists in brain regions other than the auditory cortex.

The study appears in the August edition of the journal Science.

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