Scientists find natural protein 'battery'

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Dallas researchers say they've found a protein inside cells that might act like a battery, capable of receiving, storing and dispensing electrical charge.

The University of Texas scientists said such battery-like properties might represent a unique way for a cell to respond to changes in its internal state and external environment.

Steven McKnight and colleagues found the protein Sprouty2 clumps into larger particles that store electrical charges internally. The Sprouty2 protein forms strong bonds between iron and sulfur.

Deep inside the protein clump, the bonds and their electronic state are protected from electrical charges in the cell's immediate environment. The scientists said the clump's energetic state was almost impossible to discharge by normal biochemical methods.

The research suggests the electrical charge is protected until the protein clump meets its proper receptor.

The study is detailed in this week's early online edition of the Proceedings of the National Academy of Sciences.