Molecule key to sustaining brain communication

February 4 2013

(Medical Xpress)—Scientists have discovered the powerful role the molecule Myosin VI plays in communication between nerve cells in the brain.

Researchers at the University of Queensland's (UQ) Queensland Brain Institute (QBI) have found that Myosin VI is integral to maintaining the neurotransmitter release that allows neurons to pass on information to other neurons.

The discovery made by Vanesa Tomatis, a PhD student in Associate Professor Frederic Meunier's laboratory, demonstrates how Myosin VI has the impressive ability to anchor secretory vesicles that are at least 5,000 times greater in size, near their release site.

"By tethering and anchoring secretory granules, Myosin VI helps to maintain an active pool of vesicles near the plasma membrane, which is key to sustaining communication between neuronal cells," Associate Professor Meunier said.

Associate Professor Meunier and his team are now looking to better understand how the Myosin VI manages to grab and hold vesicles through the use of super resolution microscopy.

They hope the discovery will lead to new ways to reinstate or regulate neuronal communication in various brain disorders.

The paper was published in *The* Journal of Cell Biology on February 4, 2013.