

**Technology:** [Methods for treating brain swelling with a compound that blocks a non-selective cation channel](#)

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The VA has joint ownership with University of Maryland, Baltimore

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**Abstract:** The present invention is directed to therapeutic compounds, treatment methods, and kits affecting the NC.sub.Ca-ATP channel of neural tissue, including neurons, glia and blood vessels within the nervous system, and methods of using same. The NC.sub.Ca-ATP channel is newly expressed in neural tissue following injury such as ischemia, and is regulated by the sulfonylurea receptor SUR1, being inhibited by sulfonylurea compounds, e.g., glibenclamide and tolbutamide, and opened by diazoxide. Antagonists of the NC.sub.Ca-ATP channel, including SUR1 antagonists, are useful in the prevention, diminution, and treatment of injured or diseased neural tissue, including astrocytes, neurons and capillary endothelial cells, that is due to ischemia, tissue trauma, brain swelling and increased tissue pressure, or other forms of brain or spinal cord disease or injury. Agonists of the NC.sub.Ca-ATP channel may be are useful in the treatment neural tissue where damage or destruction of the tissue, such as a gliotic capsule, is desired.