

## CALIXAR and ASTRAZENECA to publish New Insight on KCC2 architecture and function

CALIXAR announces the publication of a new article by CALIXAR and ASTRAZENECA in Scientific Reports ("*Molecular architecture of potassium chloride co-transporter KCC2*", Agez M et al., 2017, Scientific Reports, Accepted).

KCC2 is a neuron specific  $K^+$ - $Cl^-$  co-transporter that controls neuronal chloride homeostasis, and is critically involved in many neurological diseases including brain trauma, epilepsies, autism and schizophrenia. Despite significant accumulating data on the biology and electrophysiological properties of KCC2, structure-function relationships remain poorly understood.

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nature

This study describes the use of calixarene-based detergent to solubilize and purify full-length non-aggregated and homogenous KCC2. Specific binding of inhibitor compound VU0463271 was demonstrated using surface plasmon resonance (SPR). Mass spectrometry revealed glycosylations and phosphorylations as expected from functional KCC2. Electron microscopy (EM) revealed the first in-depth functional architecture of KCC2 highlighting its flexible multi-domain structure with variable anchoring points at the dimerization interface and a critical C-terminal extremity.

This first functional architecture of KCC2 will certainly aid rational design and structure based drug discovery focused towards the treatment of CNS disorders.

### About Calixar

Calixar develops new approaches to isolate in solution - with the highest purity levels - full-length membrane antigens and proteins (GPCRs, Ion Channels, Transporters, Receptors and Viral Proteins), while keeping their structural and functional integrity. Calixar's approach represents an opportunity for pharmaceutical companies to start and work with high quality targets or antigens before formulating vaccines, developing antibodies, and/or discovering a primary lead through Structure Based Drug Design or High Throughput Screening assays. For more information please visit: [www.calixar.com](http://www.calixar.com).

### About AstraZeneca

AstraZeneca is a global, innovation-driven biopharmaceutical business that focuses on the discovery, development and commercialization of prescription medicines, primarily for the treatment of cardiovascular, metabolic, respiratory, inflammation, autoimmune, oncology, infection and neuroscience diseases. AstraZeneca operates in over 100 countries and its innovative medicines are used by millions of patients worldwide. For more information please visit: [www.astrazeneca.com](http://www.astrazeneca.com).

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