Seminar/Talk

Chloride transporters KCC2 and NKCC1 in neuronal development, signalling and plastici

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Electrical activity in neurons requires a seamless functional coupling between plasmalemmal ion channels and ion transporters. While ion channels have been studied intensively for several decades, work on ion transporters is attracting a steeply rising number of researchers into this field. This is because in recent years, it has become evident that a family of ion transporters, the cation-chloride cotransporters (CCCs), in particular the K Cl? cotransporter 2 (KCC2) and the Na-K-2Cl cotransporter 1 (NKCC1), have been shown to have seminal roles in shaping neuronal development as well as synaptic signalling and connectivity. Studying the functions of these transporters may lead to major paradigm shifts in our understanding of the mechanisms underlying brain development and plasticity in health and disease. CCCs are also promising candidates as CNS drug targets for treatment of a large variety of brain dysfunctions and diseases, ranging from autism spectrum disorders to epilepsy and stroke.

Wednesday, March 15, 2017 12:00pm - 01:00pm
Seminar Room, Lab Building East

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