

EXPLOITING THE PORE: REGULATION AND MANIPULATION OF PLANT CATION TRANSPORTERS

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Using a combination of approaches, we are attempting to characterize the expression and physiological function of plant cation transporters. At the molecular level, our goals are to understand the structure, biological function, and regulation of transporter proteins that control trafficking into and out of the vacuole. We are taking a multidisciplinary approach to these objectives using a combination of plant biology, yeast molecular genetics and mice studies. Another major goal in our group is to learn how to manipulate the expression and function of these transporters to increase the nutritional content of crop plants, improve plant productivity, and cleanse polluted soils. For some of these nutritional objectives, we will report results from our recently completed clinical trials using human feeding regimes.