

Dr James McCormick

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Dr. McCormick is a Professor in the Division of Nephrology and Hypertension at Oregon Health and Science University. He has made significant contributions to understanding of the role of the NaCl cotransporter (NCC) in hypertension and K⁺ handling. Key contributions include identifying kidney-specific isoforms of the NCC-activating protein kinase SPAK, determining the role of the K⁺ channel Kir4.1 in NCC regulation, and determining the mechanism by which mutations in the ubiquitin ligase Cullin 3 cause hypertension. This work has led to the concept of the “potassium switch” by which NCC activity is turned on or off to maintain K⁺ homeostasis under normal physiological conditions. More recent work has explored hypomagnesemia and its link to hypokalemia, and mechanisms of renal magnesium handling. In 2022, he received the Mid-career Achievement Award from the American Heart Association for his research contributions to the kidney in hypertension and cardiovascular disease.

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