

Weekly Colloquium

Tuesday, 3/20/2018, 12:30pm, Billings Building – Rosedale Conference Room

“Hyperpolarized ¹³C MRS- redox imaging and the brain”

David Meybin Wilson, MD, PhD

Associate Professor In Residence

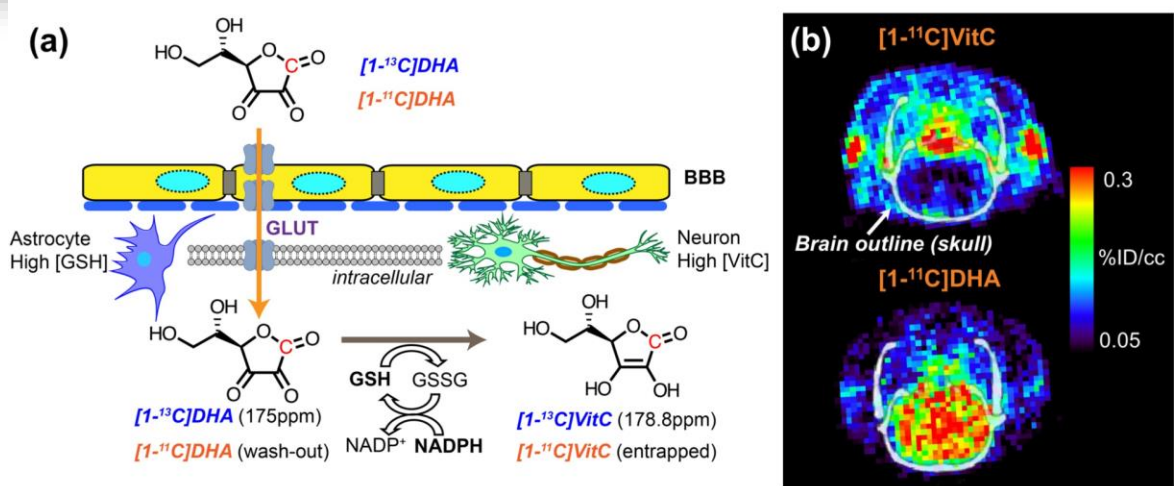
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Abstract:

The goal of research in the Wilson lab is to develop metabolism and microenvironment-targeted imaging methods, to guide intervention and predict response to molecular therapies. The lab develops cutting-edge magnetic resonance imaging (MRI) and positron emission tomography (PET) techniques to study basic biochemical pathways and their alterations in cancer and other metabolic disorders. New chemistries are used in the design and synthesis of imaging probes, which have strong potential for translation into the clinic. We are particularly focused on the molecular imaging of antioxidants and reactive oxygen species that play a crucial role in the development and progression of disease.



Publications:

Carroll V, Truillet C, Shen B, Flavell RF, Shao X, Evans MJ, Vanbrocklin HF, Scott PJ^A, Chin FT^A, **Wilson DM**. $[^{11}\text{C}]$ Ascorbic and $[^{11}\text{C}]$ dehydroascorbic acid, an endogenous redox pair for sensing reactive oxygen species using positron emission tomography (2016). *Chemical Communications* 52: 4888-4890.

Flavell RR, Truillet C, Regan MK, Gangly T, Blecha JE, Kurhanewicz J, Vanbrocklin HF, Keshari KR, Chang CJ, Evans MJ, **Wilson DM**. Caged 18F-glycosylamines for imaging acidic tumoral microenvironment using positron emission tomography (2016). *Bioconjugate Chemistry* 27(1): 170-178.

Qin H, Carroll VN, Sriram R, Villanueva-Meyer JE, von Morze C, Wang ZJ, Mutch CA, Keshari KR, Flavell RR, Kurhanewicz J, **Wilson DM**. Imaging glutathione depletion in the rat brain using ascorbate-derived hyperpolarized MR and PET probes (2018). *Submitted*.