

Drug Discovery Targeting Carbohydrate Transporters

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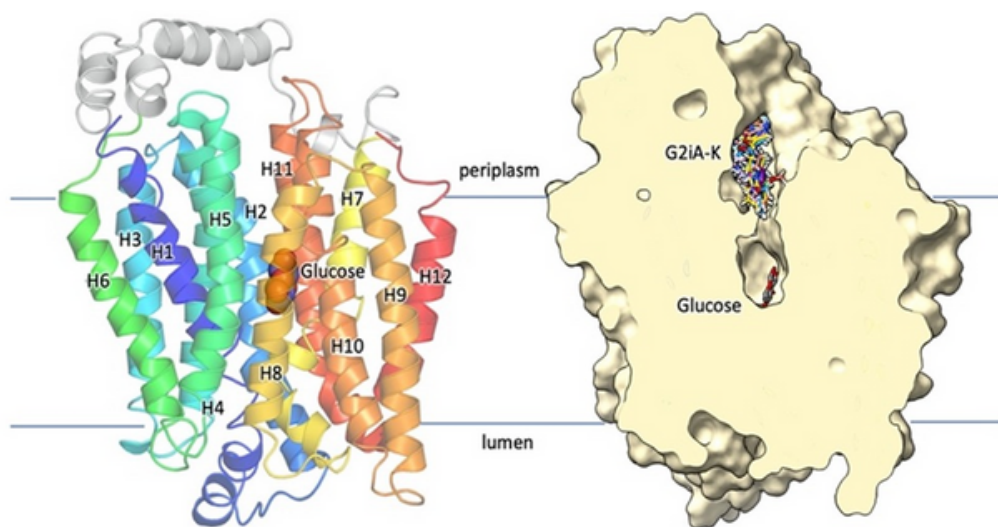
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Abstract

Glucose is the main source of cell energy and building blocks. In humans, its passive diffusion through the cell membrane is mediated by the glucose transporter family members (GLUT, SLC2 gene). Alterations in normal GLUT function or expression are linked to Mendelian disorders, diabetes, cancer, renal disease, metabolic syndrome, and Alzheimer's disease. GLUT1 is the most overexpressed GLUT in cancers; often being a marker of poor survival. GLUT3, the highest affinity glucose transporter, is upregulated in very aggressive cancers. GLUT5 is a therapeutic target in cancers, obesity, and diabetes. GLUT inhibitors have been reported to block cancer cell proliferation and reverse resistance to chemo- and radiotherapies. However, there are no FDA-approved drugs targeting GLUTs yet. So far, we have identified ~40 novel GLUT inhibitors using structural biology, in silico studies, and in vitro/in vivo validation.



All are welcome. Please join us!

September 29th @ 2:00 pm - Lopez 106