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Research for cytochalasin b, phloretin, forskolin, and phlorizin inhibiting glucose transporter from staphylococcus epidermidis through molecular dynamics simulation

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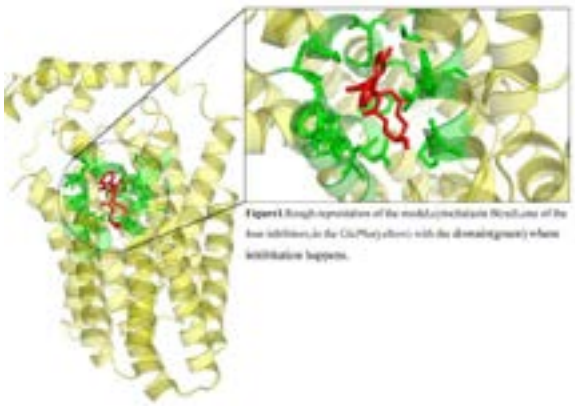
Glucose transport (GLUT) is vital to most living cells as a gate inserted in membranes controlling the source of both energy and carbon, glucose into cells. Previous work with human GLUTs identified several inhibitors of glucose transport: cytochalasin B, phloretin, forskolin, and phlorizin. Now the research focuses on Staphylococcus epidermidis glucose/H+ symporter (GlcPSe), which shares high sequence identity (27–34%) and homology (49–58%) with the human GLUTs, and tries to search the proof of inhibition in the aspect of thermodynamics and conformation through molecular dynamics simulation. Furthermore, we also discuss the protonation effect among the transport process.



Biography

Xian-yang Zeng is now studying in Institute of Theoretical Chemistry, Jilin University for Doctor's degree.

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