



## Glut1

Video showing the Glut1 transporter in the act of passing a molecule of Glucose across the cellular membrane.

The video was made on the basis of dynamics data provided by Tiziano Tuccinardi, of Dept of Pharmacy, Univ. of Pisa. The membrane is shown as an array of lipids in slight agitation on the three axis. The protein embedded in the membrane is modelled using all non Hydrogen atoms, represented as spheres with a grey tone, depending of the lipophilicity scale obtained using BioBlender. All atoms are rendered as partially transparent in order to appreciate the depth of the molecule. The Glucose represents an exception to the rule above: it is rendered with all its heavy atoms as white spheres, and it is the source of light for the scene. Thus, during its transition along the transporter, the various parts fo the protein are more clearly illuminated.

The first glucose transport takes about a minute, while the subsequent trasfers are progressively faster. In this way, it is possible to observe some details at the beginning, and to get a more general view towards the end. After one glucose has been released into the cytoplasm (lower part of the figure) the transporter quickly regains the 'starting' position, i.e. the conformation able to bind the sugar from solution.

The sound was specifically produced by Francesco Forges and Hacienda Sonora, and helps the viewer to engage in the different dimension represented in the movie.

