

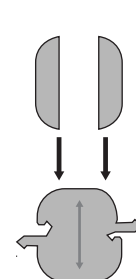
Assembly Instructions

Channel Assembly Instructions

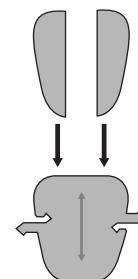
1 Aquaporin and 1 Leaky K⁺ Channel

Affix the 2 smaller grey, foam sticky-back pieces to the grey, foam aquaporin piece and the two larger grey, foam sticky-back pieces to the grey, foam leaky K⁺ channel piece, as shown in the images. (Please note: the grey, sticky-back pieces should line up with the edges of the aquaporin and K⁺ channel pieces when you attach them.)

**Use talcum powder to block the exposed adhesive on the back of the channels. This will prevent the foam of the connected piece from sticking and tearing after use.*

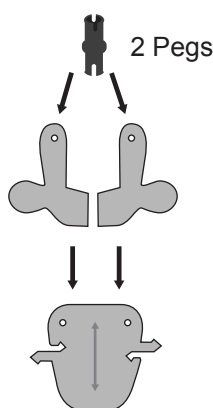


1 Aquaporin

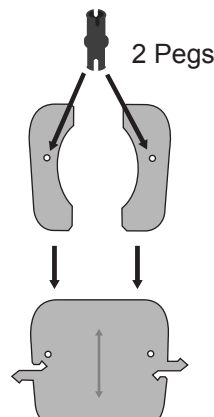


1 Leaky K⁺ Channel

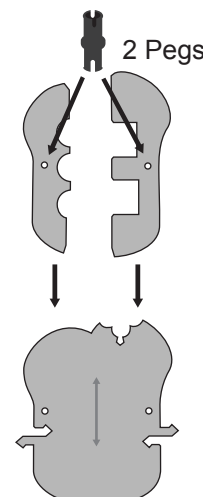
1 Gated Na⁺ Channel, 1 GLUT1 Carrier Protein and 1 Na⁺/K⁺ Pump



1 Gated Na⁺ Channel



1 GLUT1 Carrier Protein



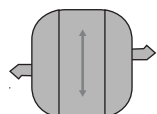
1 Na⁺/K⁺ Pump

Insert plastic pegs in each of the 2 top pieces of the gated Na⁺ channel as shown in the image, then attach to the bottom piece of the gated Na⁺ channel.

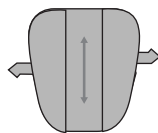
Insert plastic pegs in each of the 2 top pieces of the GLUT1 carrier protein as shown in the image, then attach to the bottom piece of the gated GLUT1 carrier protein.

Insert plastic pegs in each of the 2 top pieces of the Na⁺/K⁺ pump as shown in the image, then attach to the bottom piece of the Na⁺/K⁺ pump.

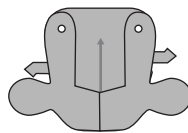
Assembled Channels



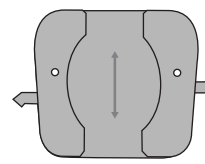
1 Aquaporin



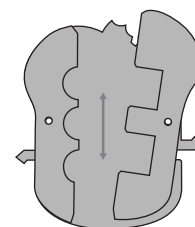
1 Leaky K⁺ Channel



1 Gated Na⁺ Channel



1 GLUT1 Carrier Protein



1 Na⁺/K⁺ Pump

Assembly Instructions

Sticker Application Instructions

50 Mini Phospholipids



● Negative Charge

Affix medium red stickers with black negative charge symbols to the yellow, foam mini phospholipids pieces, as shown in the image.

30 H₂O



Affix small red stickers to the 30 white, foam H₂O pieces, as shown in the image.

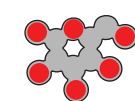
CPK Color Scheme

- Small Molecule Atoms
- Large Phospholipid Atoms

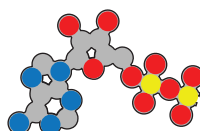
- Oxygen
- Nitrogen
- Phosphorus
- Hydrogen
- Carbon

5 Glucose and 1 ATP

Affix small red, blue and yellow stickers to the 5 grey, foam glucose pieces and 1 grey, foam ATP piece, as shown in the images.



5 Glucose



1 ATP



Large Phospholipids

(Including fatty acids, hydrogen, hydroxyl, glycerol backbone, phosphatidylethanolamine, phosphatidylserine, phosphatidylcholine and phosphatidylinositol.)



1 Piece

Saturated Fatty Acids Tails



2 Pieces

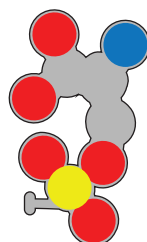


9 Hydroxyl Groups

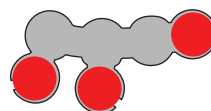


2 A Pieces

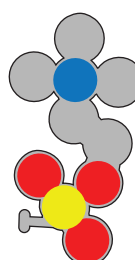
Unsaturated Fatty Acids Tails



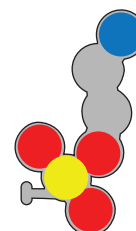
1 Phosphatidylserine Head



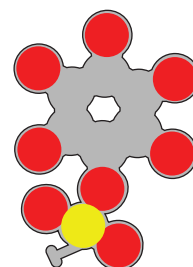
1 Glycerol Backbone



1 Phosphatidylcholine Head



1 Phosphatidylethanolamine Head



1 Phosphatidylinositol Head

Affix large red, blue and yellow stickers and medium white stickers to the grey, foam phospholipid pieces, as shown in the images.