

## AQUAPORIN-1 STRUCTURE EXPLORATION WORKSHEET

1. Read Murata, et al, Nature (2000) 407:599-605.
2. Assemble the gene map from the pdf file provided.
3. Label and annotate the map with key amino acids and structural motifs that are described in the paper, using Fig. 3 as a guide. You might find it helpful to assemble 2 copies of the gene map so that you can cut one of them up and use it to assemble a paper model of the protein.
4. Once you have spent some time with the Murata paper and your models and you feel like you understand the relevant features of aquaporin, use them to help you explore the following:

### Membrane-spanning helix

How many are there?

How are they indicated?

### Short pore helix

How many are there?

How are they indicated?

### Loops

How many are there?

How are they indicated?

### Significance of:

Tandem repeats?

Asn-Pro-Ala motif?

His180?

Cys189?