



A tree of all K + transporters from *A. thaliana* has five major branches: a) KUP/HAK/KT transporters (13 genes), b) Trk/HKT transporters (1 gene), c) KCO (2P/4TM) K + channels (6 genes), d) Shaker-type (1P/6TM) K + channels (9 genes), and e) K + /H + antiporter homologues (6 genes). Predicted membrane topologies for each branch are shown. The apparent absence of K + channels of the 2P/8TM family is remarkable as is the diversity in the AtKUP/HAK/KT transporters. Proteins for which a complete cDNA sequence is available are indicated by bold letters and lines. AGI genome codes are given except for AtKUP3=AtKUP4, AtHAK5, AtHKT1, GORK, KAT2 and AKT2 (GenBank accessions) because of errors in the sequences predicted by AGI. Programs used were HMMTOP (Tusnady and Simon, 1998) for topology predictions of the KEA and AtKUP/HAK/KT families, ClustalX (Thompson et al., 1997) for alignments, and treeview (Page, 1996) for graphical output.