



Figure 4. Sir2 Family of Deacetylases

Sir2 is the founding member of a large family of NAD-dependent deacetylases. The Sir2 family of proteins is unusually conserved and is found in organisms that range from bacteria to humans, and contains both nuclear and cytoplasmic branches of the evolutionary tree. This phylogenetic unrooted tree of Sir2 homologs was generated using CLUSTAL W[®] and TREEVIEW[®] programs to compare the core domain sequences of homologs identified in cDNA and unique libraries. The six subclasses and unlinked group (U) are described in Frye (2000). The mammalian homologs are labeled SirT1–7 and are in bold, and the budding yeast proteins are underlined. Other species are indicated by the species name. (Modified, with permission, from Frye 2000 [©Elsevier].)