oligosaccharides of the raffinose family, occurs *via* an ABA-independent pathway. Genes in this pathway have a drought-responsive element in their promoter regions and are probably regulated by distinct or interacting signal transduction networks.

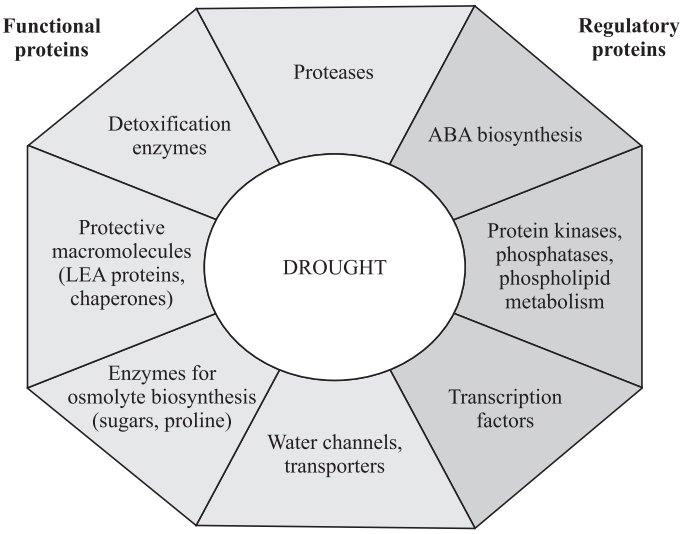

Fig. 18.3 Drought stress-inducible genes perform important functions during acclimation.

Table 18.1 The protein products of drought stress-inducible genes can be classified into two groups.

Proteins	Examples
Functional proteins: (Responsible for executing stress responses)	• Detoxification enzymes and various proteases
	• RNA-binding proteins
	• Protective molecules e.g. LEA proteins, osmotin, antifreeze proteins and chaperones
	• Water channels (aquaporins), and sugar as well as proline transporters
	• Key enzymes for osmolyte (proline, sugars) biosynthesis
Regulatory proteins: (Responsible for signal transduction and control of gene expression)	• Transcription factors
	• Factors involved in post-transcriptional regulation, such as RNA-processing enzymes
	• Protein kinases and protein phosphatases
	• Enzymes of phospholipid metabolism
	• ABA biosynthesis
	• Components of the calmodulin system