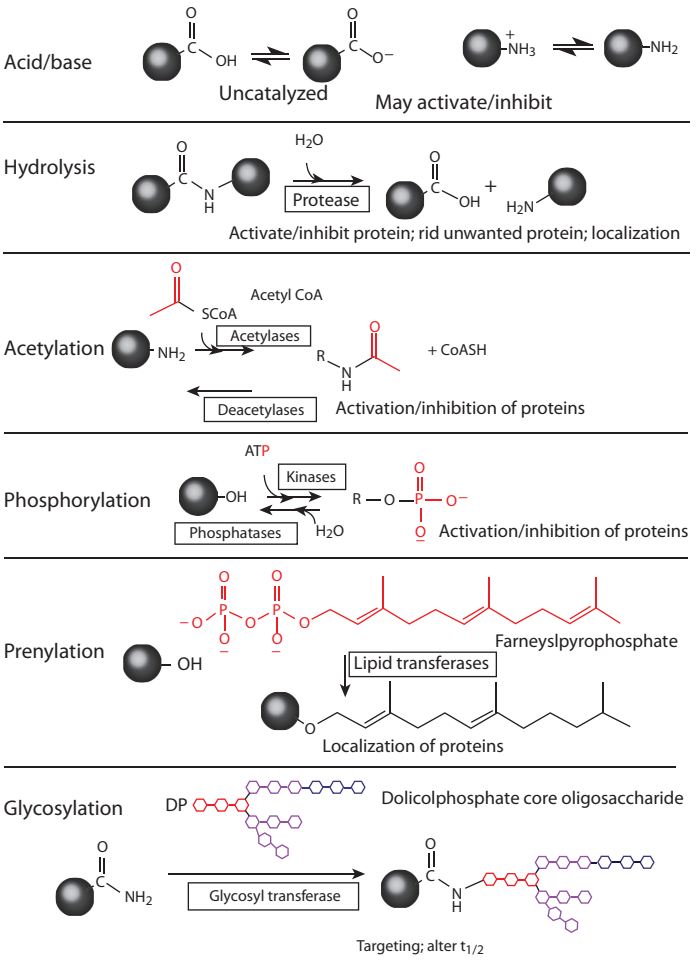

Figure 1.10 Common PTMs.

secretion of cell proteins. These modifications consist of the grafting on defined amino acids of one or several chemical/biological groups such as phosphate or sulfate groups or sugars (when it will be termed *glycosylation*) that modify the global charge and the physicochemical or biological characteristics of these *mature* proteins as the final active forms.

Figure 1.9 shows the process of PTM.

Figure 1.10 shows the various PTMs that are frequently encountered.

The impact of PTM on stability risk and functionality risk is demonstrated in Figure 1.11.

The PTMs that take place on specific sites of the protein are not controlled by the gene that expresses the protein sequence; instead,