



**Figure 8.20** Structure of the tryptophan operon and of tryptophan and other leader peptides in *Escherichia coli*. (a) Arrangement of the tryptophan operon. Note that the leader (L) encodes a short peptide containing two tryptophan residues near its terminus (there is a stop codon following the Ser codon). The promoter is labeled P and the operator is labeled O. The genes labeled *trpE* through *trpA* encode the enzymes involved in tryptophan biosynthesis. (b) Amino acid sequence of leader peptides synthesized in some other amino acid biosynthetic operons. Because isoleucine is made from threonine, it is an important constituent of the threonine leader peptide.