

Two protein components help guide ER signal sequences to the ER membrane: (1) a signal recognition particle (SRP), present in the cytosol, binds to both the ribosome and the ER signal sequence as it emerges from the ribosome; and (2) an SRP receptor, embedded in the ER membrane, recognizes the SRP. The cleaved signal sequence is then released from the protein translocator into the lipid bilayer and rapidly degraded. Once the C-terminus of a soluble protein has passed through the translocator, the protein is released into the ER lumen (Figure 15-15). In addition to directing proteins to the ER, the signal sequence--which for soluble proteins is almost always at the N-terminus, the end synthesized first--functions to open the protein translocator