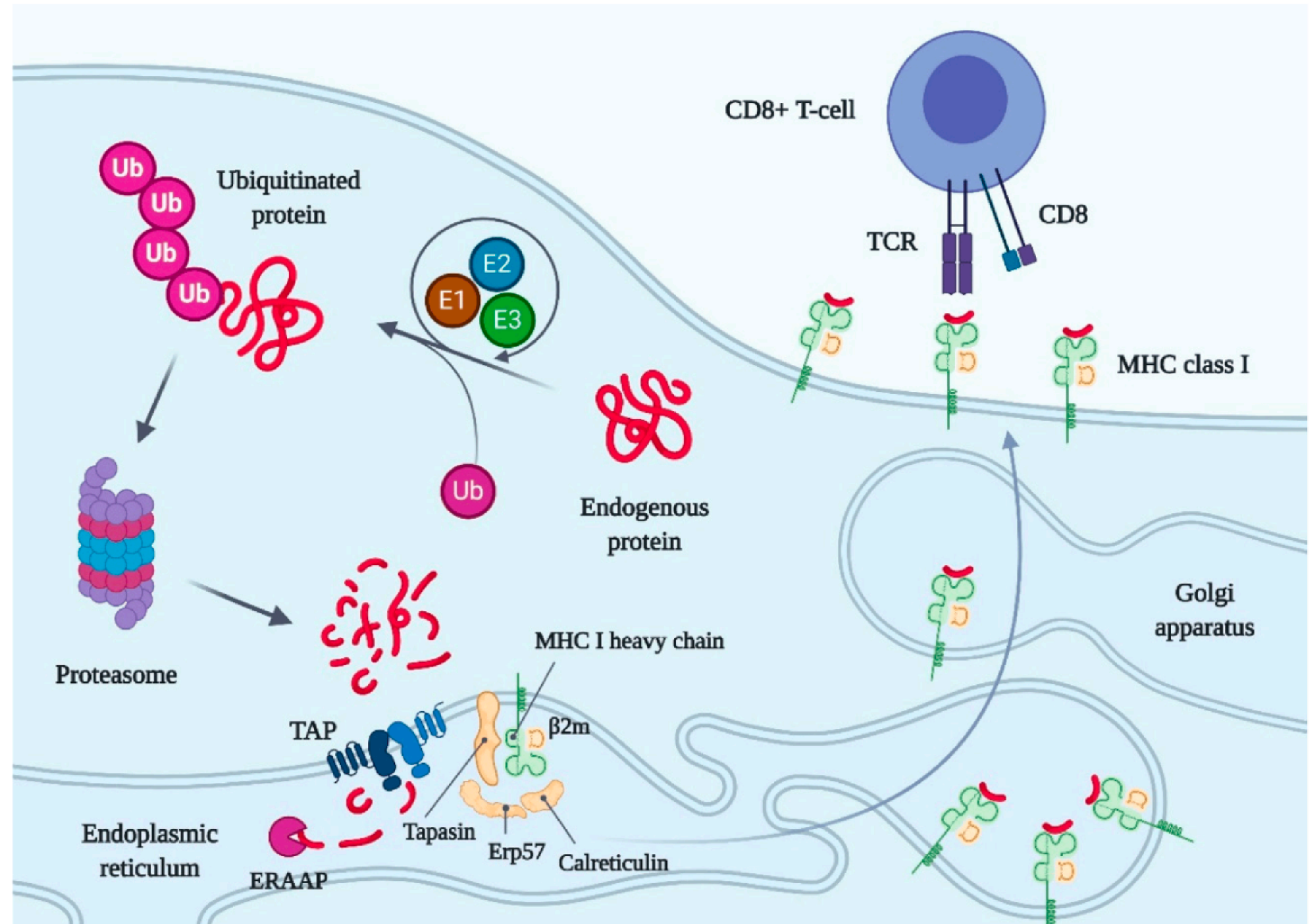


Example: MHC-restricted CTL killing of infected cells

- CD8+ Cytotoxic T-lymphocytes (CTLs) effect cell-mediated immune response
- Foreign (e.g., viral) proteins are cleaved by the proteasome in infected cells, **transported by the Transporter associated with antigen processing (TAP) complex and loaded onto the MHC Class 1 molecule.**
- MHC Class 1 presents a restricted polypeptide (**epitope**) on the surface of the cell.
- A CD8+ cells binds to presented foreign peptides via a T cell receptor (TCR) and initiates infected cell apoptosis.



MHC Class 1 Molecules

- Present **linear foreign peptides which are most commonly 9 or 10 amino acids long**
- Anchor sites (2 and 9) are usually important for binding and recognition
- Mutations which alter the peptide can hinder or prevent **CTL response** activation

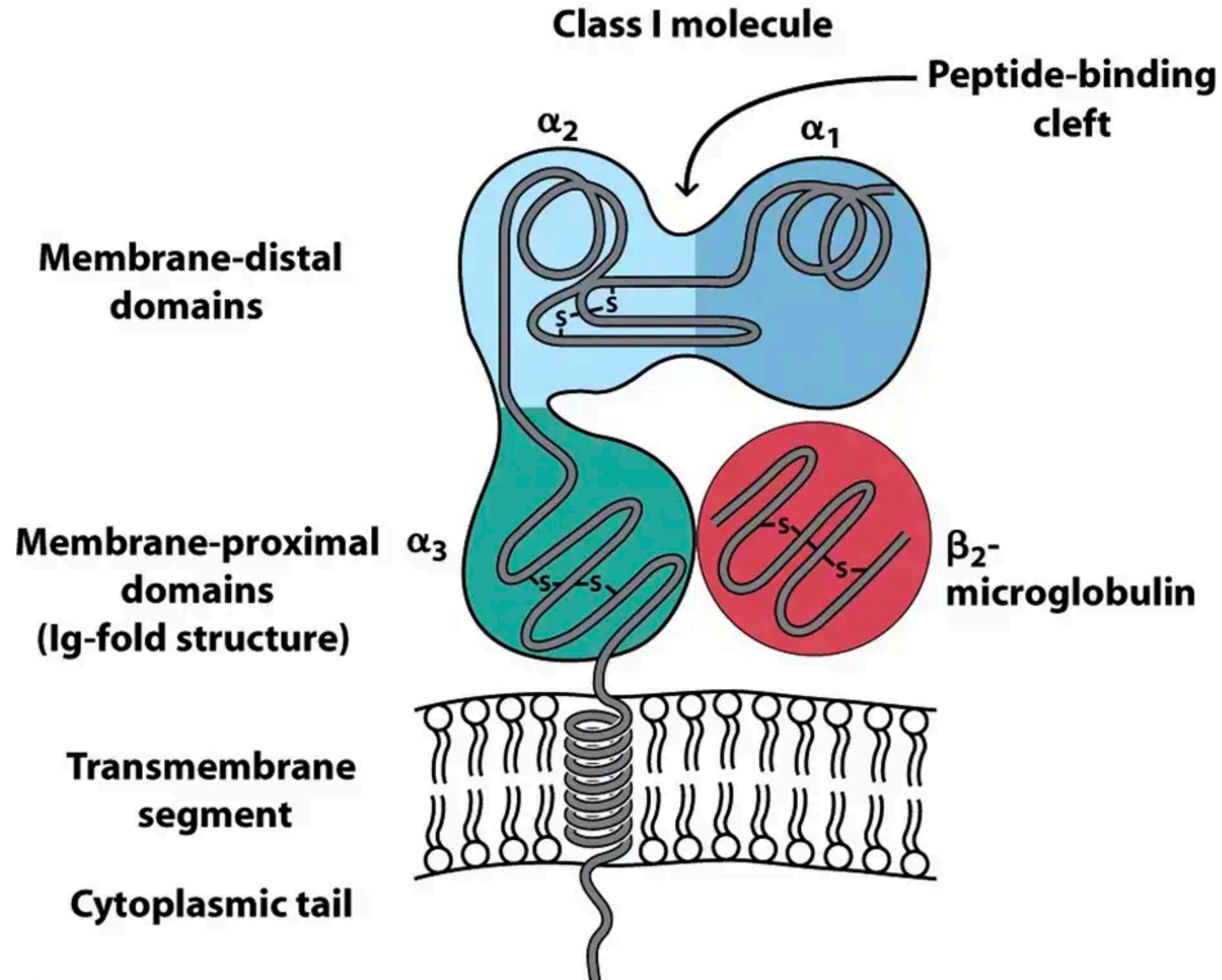


Figure 8-3
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