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

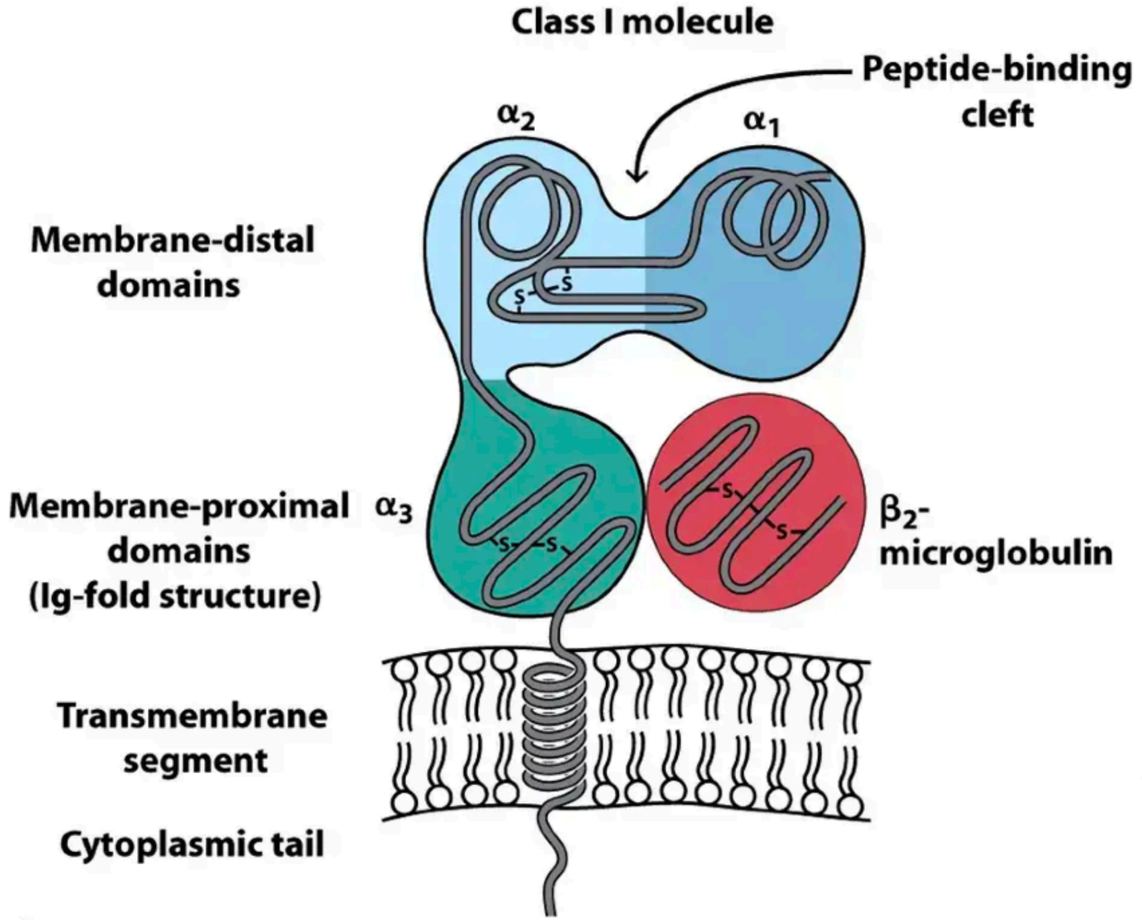

Figure 8-3
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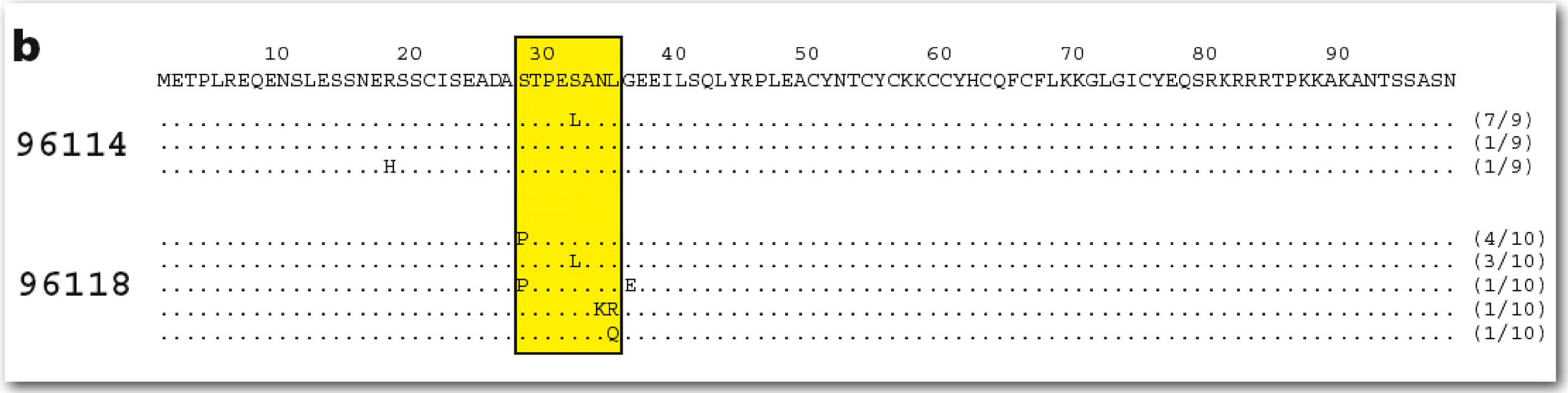
Rapid SIV sequence evolution in macaques in response to CTL-driven selection

- SIV: the only animal model of HIV (rhesus macaques)
- Experimental infection with MHC-matched strain of SIV
- Virus sequenced from a sample 2 weeks post infection
- Only variation was in an epitope recognized by the MHC
  - CTL *escape*



O'Connor et al (2002) Nat Med 8(5):493–499