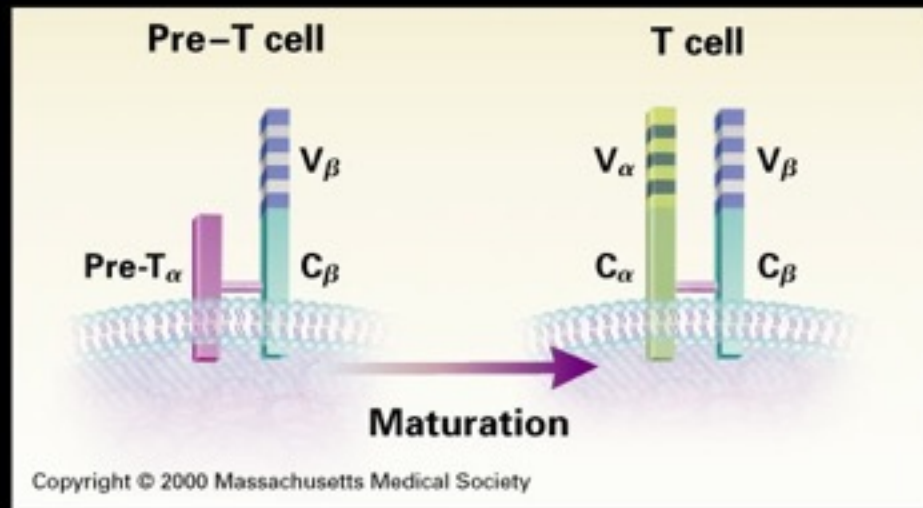
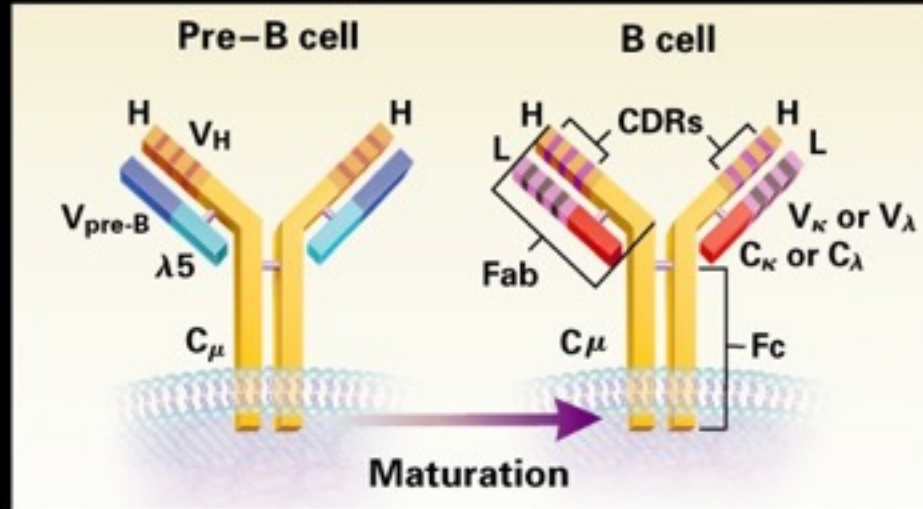


Structure of Immature and Mature B-Cell and T-Cell Antigen Receptors



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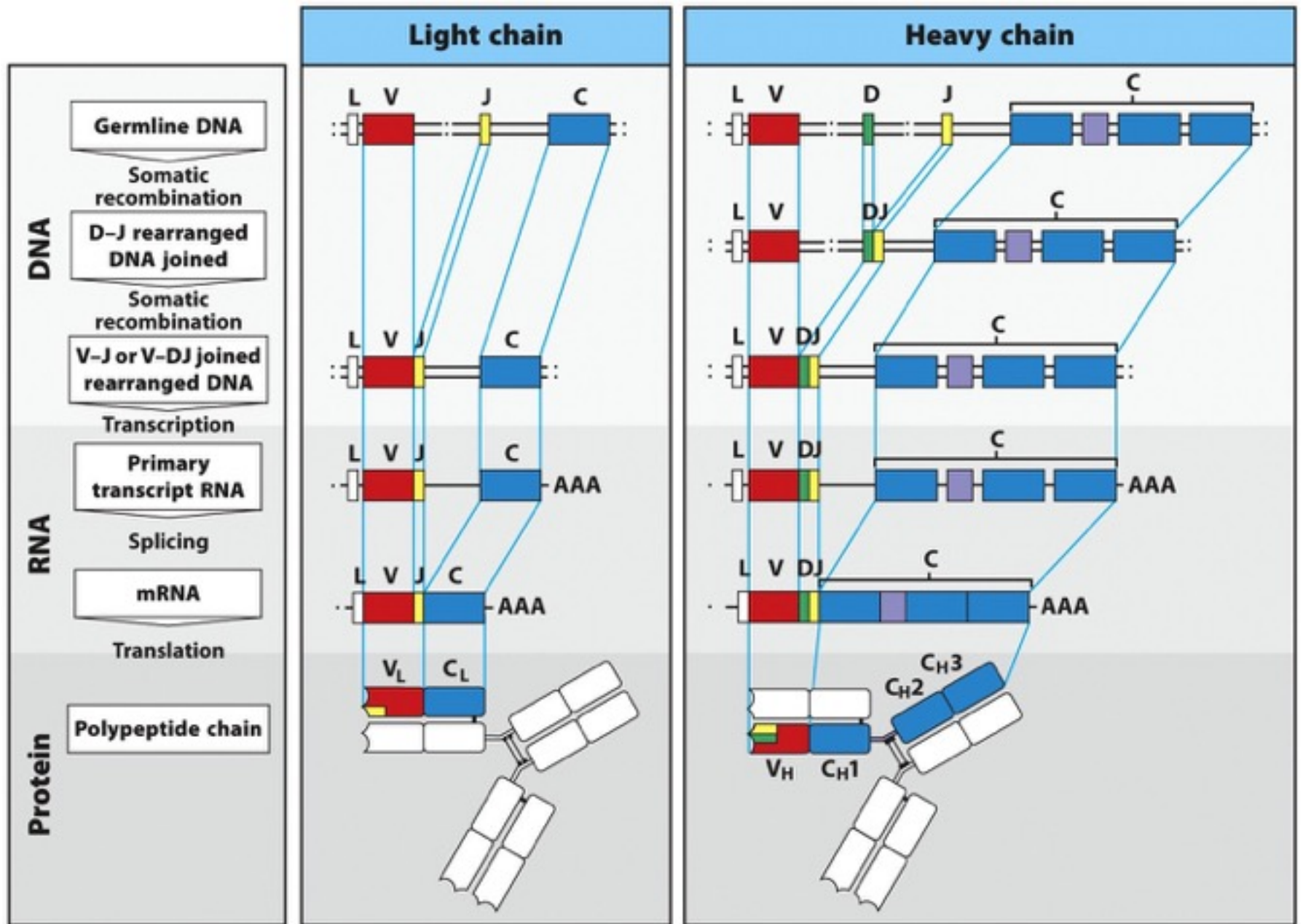


Figure 5.1 Janeway's Immunobiology, 8ed. (© Garland Science 2012)

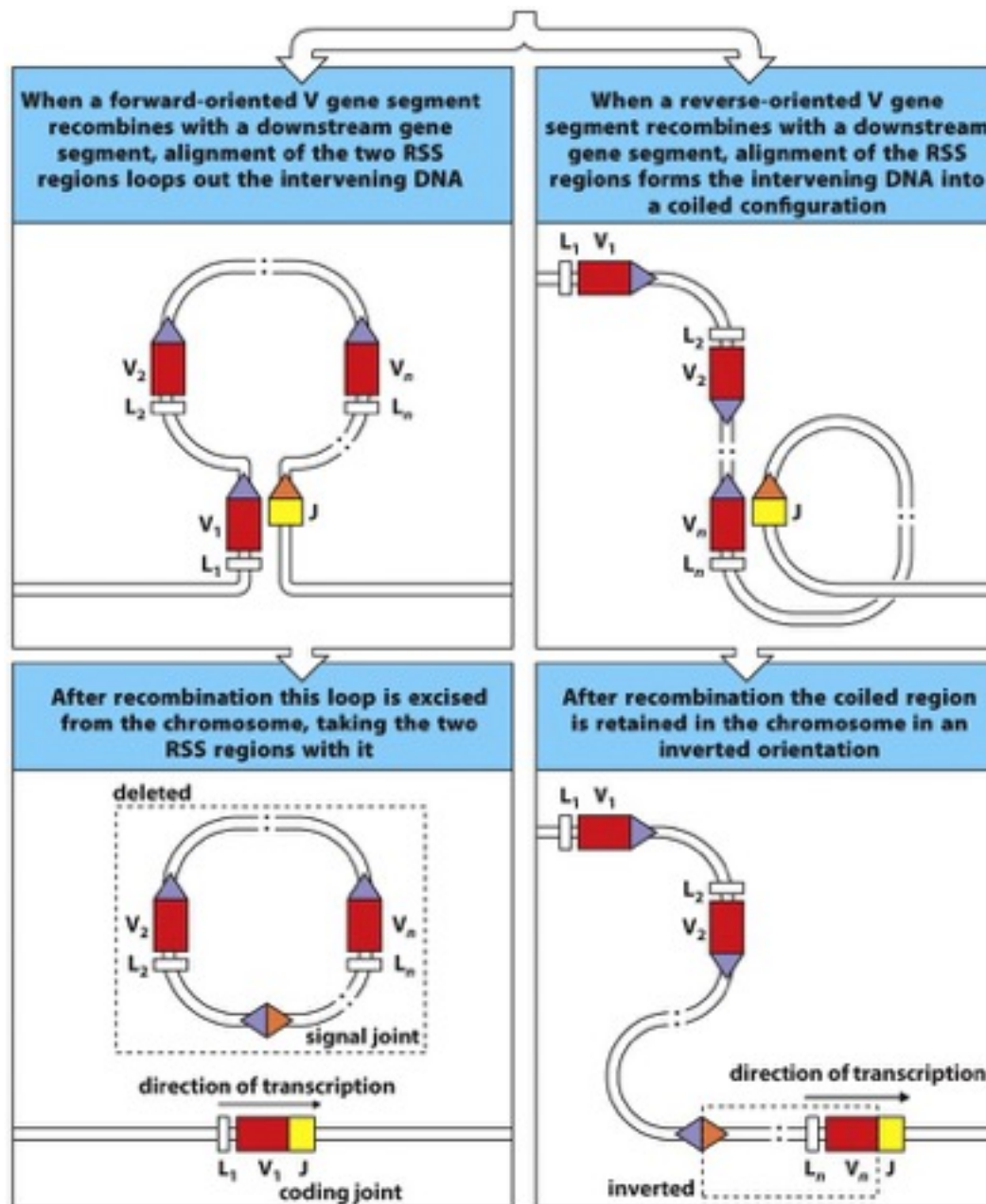


Figure 5.5 part 2 of 2 Janeway's Immunobiology, Bed. (© Garland Science 2012)

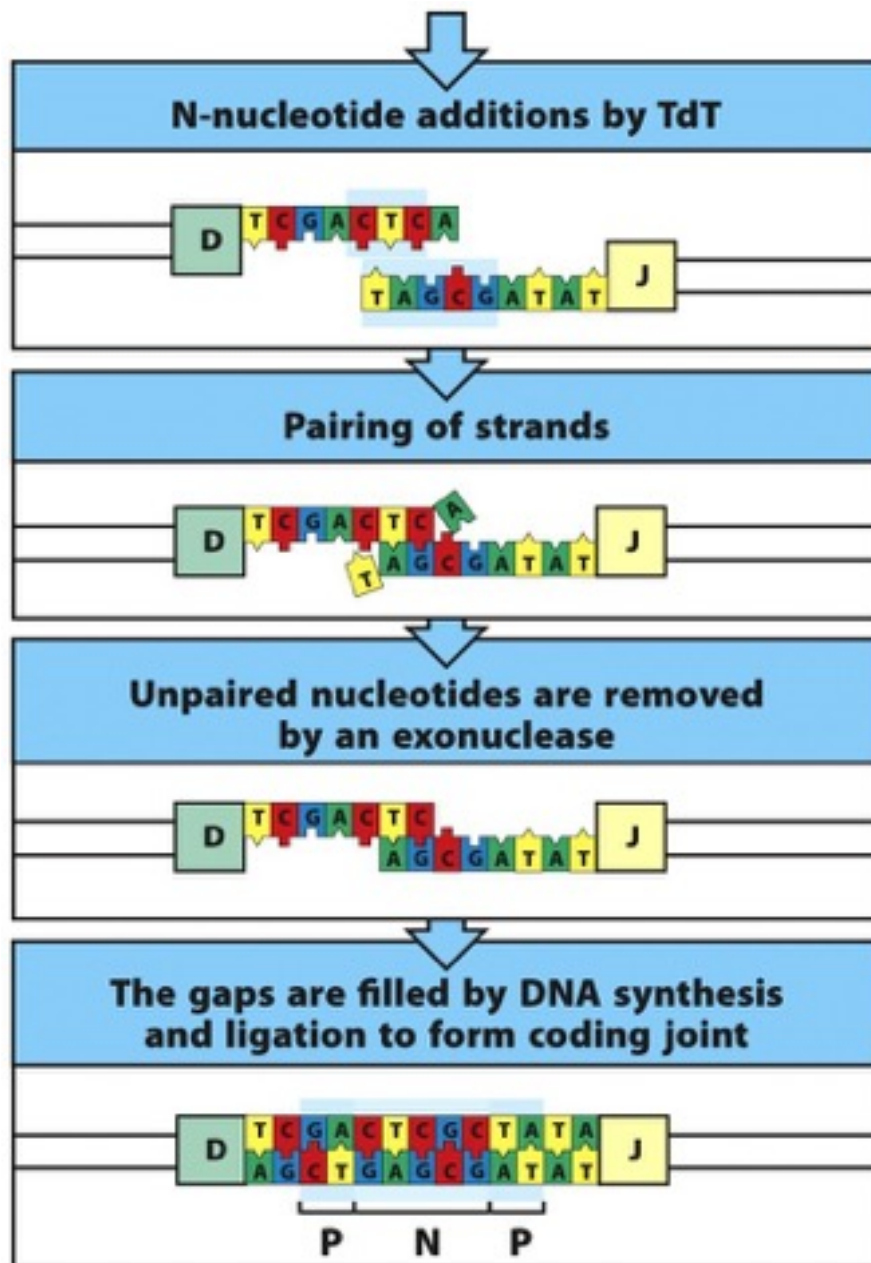


Figure 5.7 part 2 of 2 Janeway's Immunobiology, 8ed. (© Garland Science 2012)

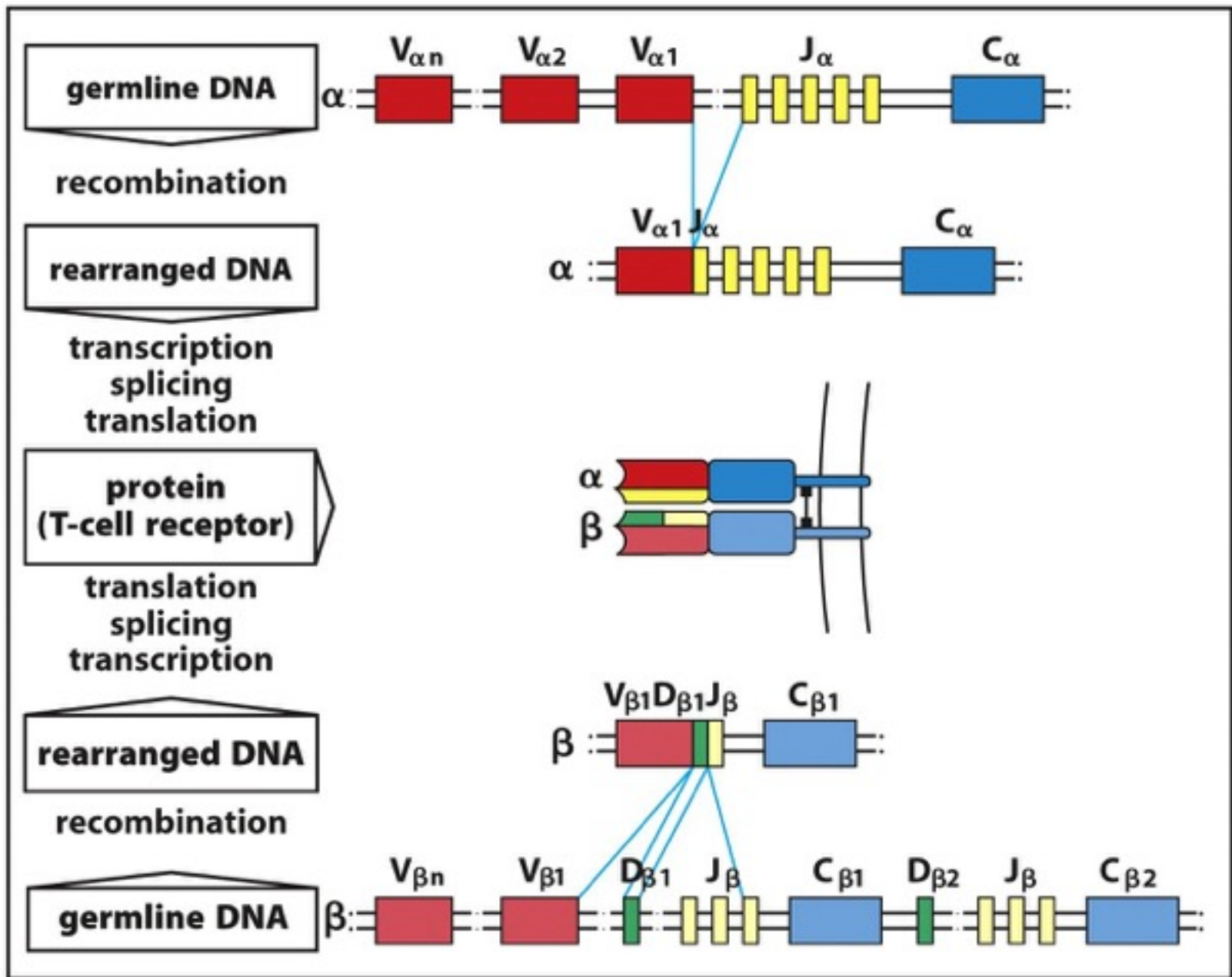


Figure 5.9 Janeway's Immunobiology, 8ed. (© Garland Science 2012)

Element	Immunoglobulin		$\alpha:\beta$ T-cell receptors	
	H	$\kappa+\lambda$	β	α
Variable segments (V)	~40	~70	52	~70
Diversity segments (D)	23	0	2	0
D segments read in three frames	rarely	–	often	–
Joining segments (J)	6	5(κ) 4(λ)	13	61
Joints with N- and P-nucleotides	2	50% of joints	2	1
Number of V gene pairs	1.9×10^6		5.8×10^6	
Junctional diversity	$\sim 3 \times 10^7$		$\sim 2 \times 10^{11}$	
Total diversity	$\sim 5 \times 10^{13}$		$\sim 10^{18}$	

Figure 5.11 Janeway's Immunobiology, 8ed. (© Garland Science 2012)

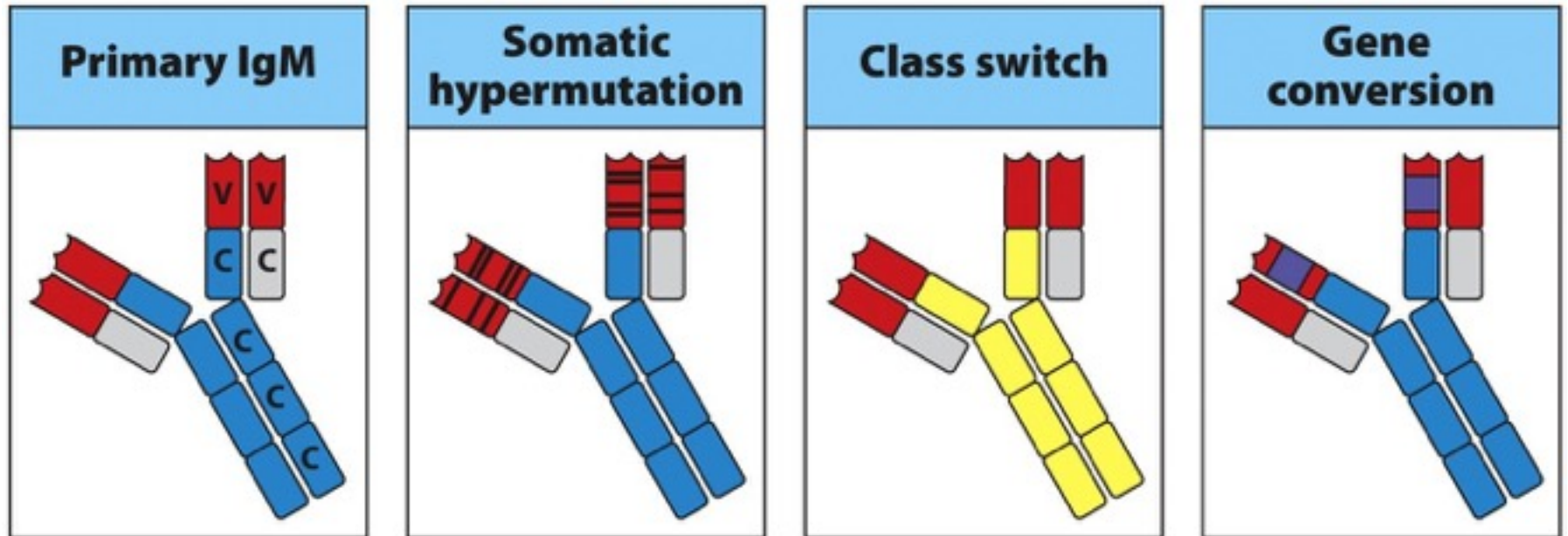


Figure 5.20 Janeway's Immunobiology, 8ed. (© Garland Science 2012)

Event	Process	Nature of change	Process occurs in:	
			B cells	T cells
V-region assembly	Somatic recombination of DNA	Irreversible	Yes	Yes
Junctional diversity	Imprecise joining, N-sequence insertion in DNA	Irreversible	Yes	Yes
Transcriptional activation	Activation of promoter by proximity to the enhancer	Irreversible but regulated	Yes	Yes
Switch recombination	Somatic recombination of DNA	Irreversible	Yes	No
Somatic hypermutation	DNA point mutation	Irreversible	Yes	No
IgM, IgD expression on surface	Differential splicing of RNA	Reversible, regulated	Yes	No
Membrane vs secreted form	Differential splicing of RNA	Reversible, regulated	Yes	No

Figure 5.26 Janeway's Immunobiology, 8ed. (© Garland Science 2012)

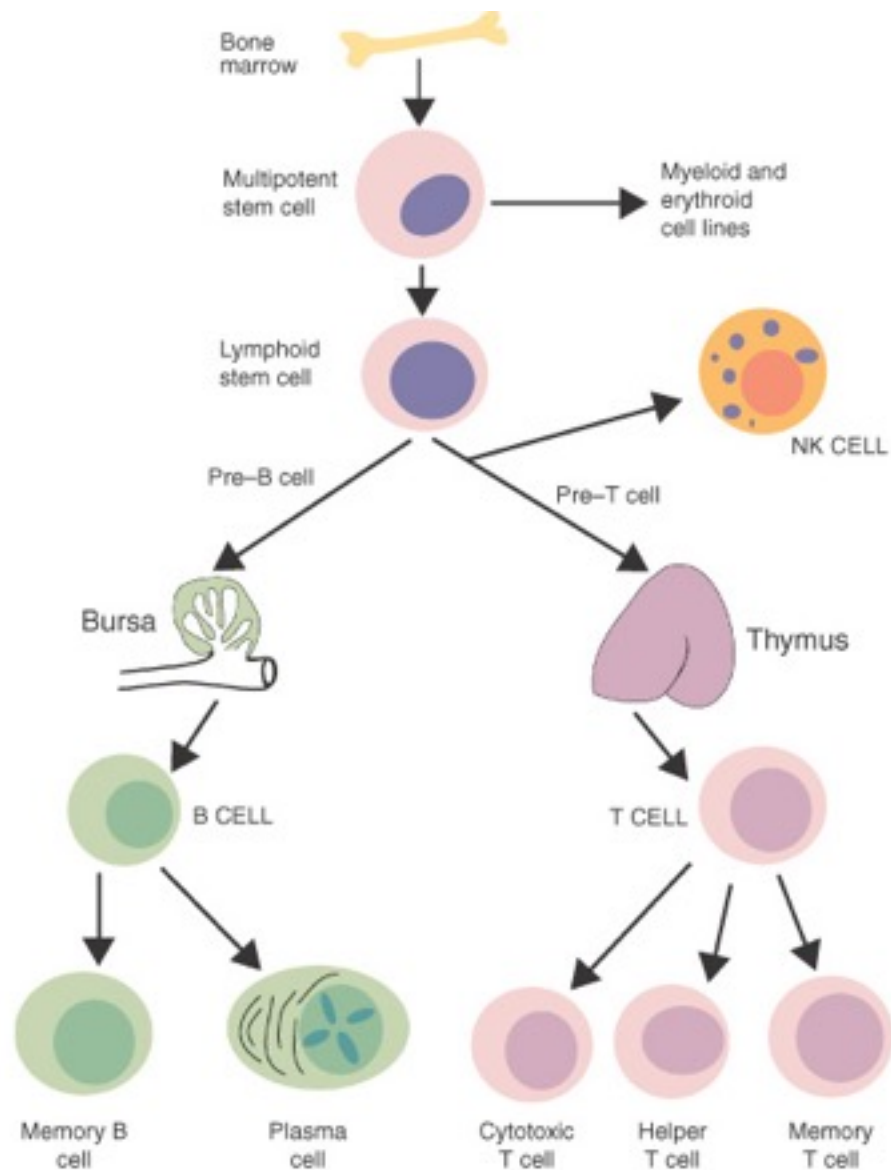


FIGURE 11-6 Development of T and B lymphocytes. Both arise from bone marrow precursors. B cells develop in the bursa, Peyer's patches, or bone marrow. T cells develop in the thymus. Natural killer (*NK*) cells are a third population of lymphocytes that are distinct from T cells and B cells.

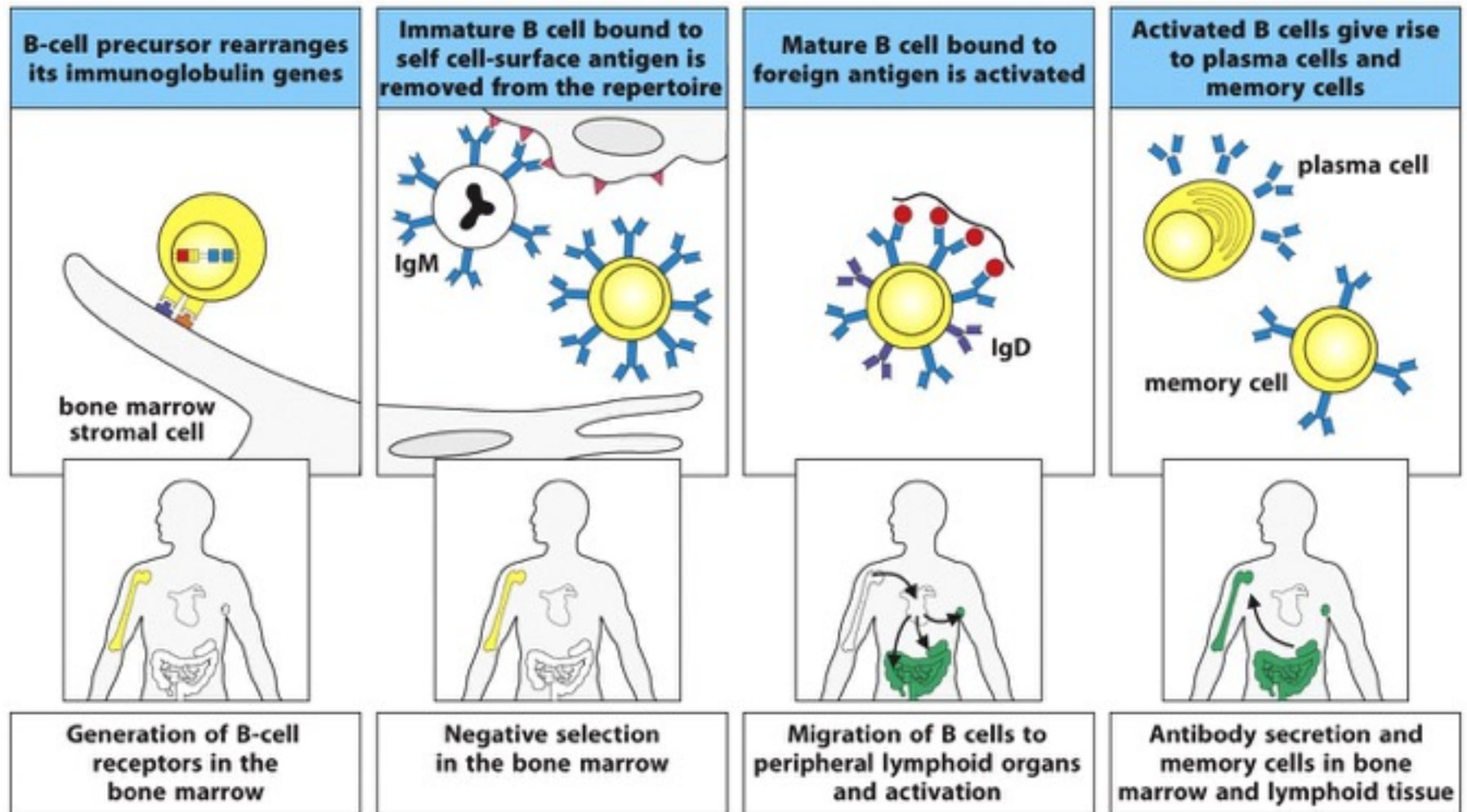


Figure 8.1 Janeway's Immunobiology, 8ed. (© Garland Science 2012)

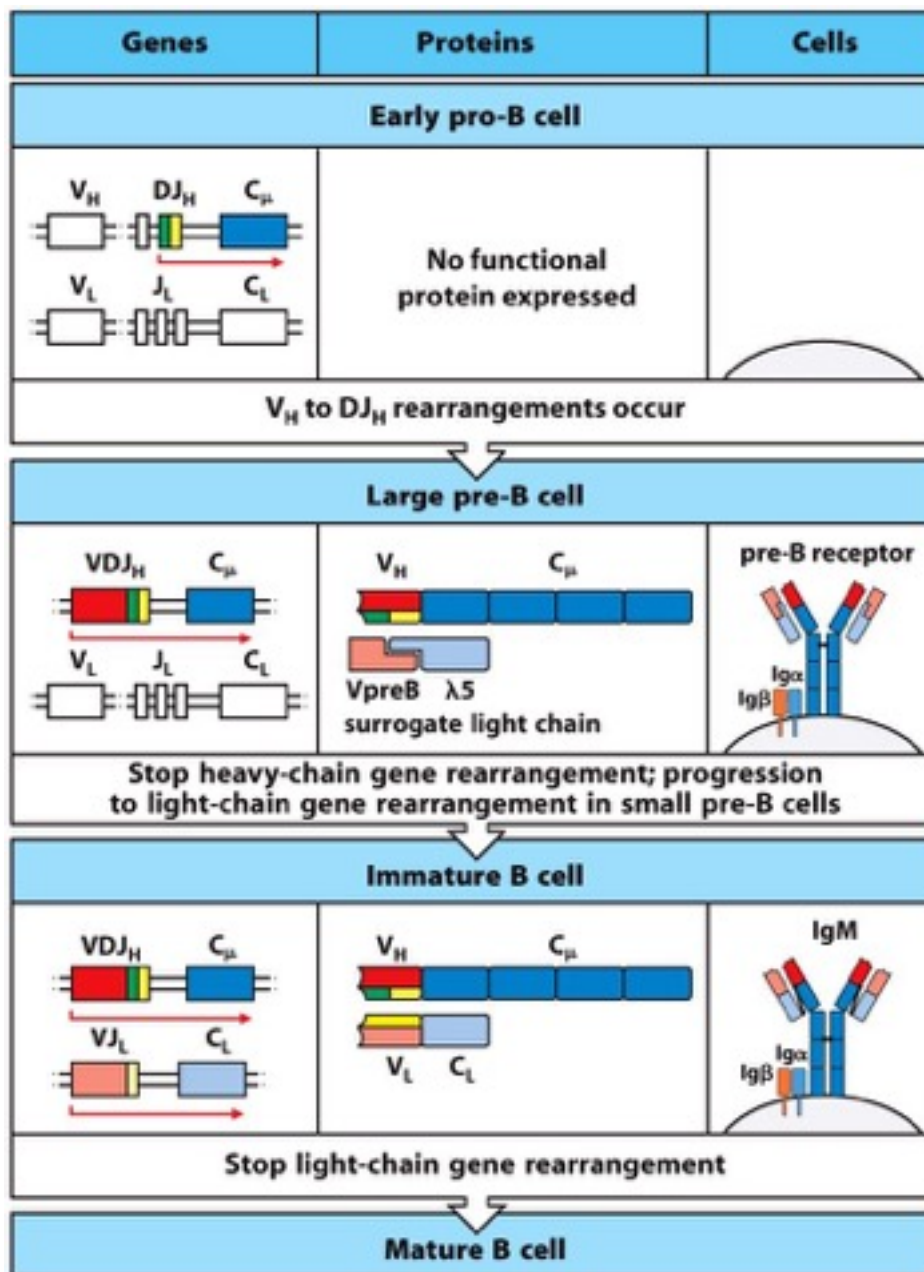


Figure 8.6 Janeway's Immunobiology, 8ed. (© Garland Science 2012)

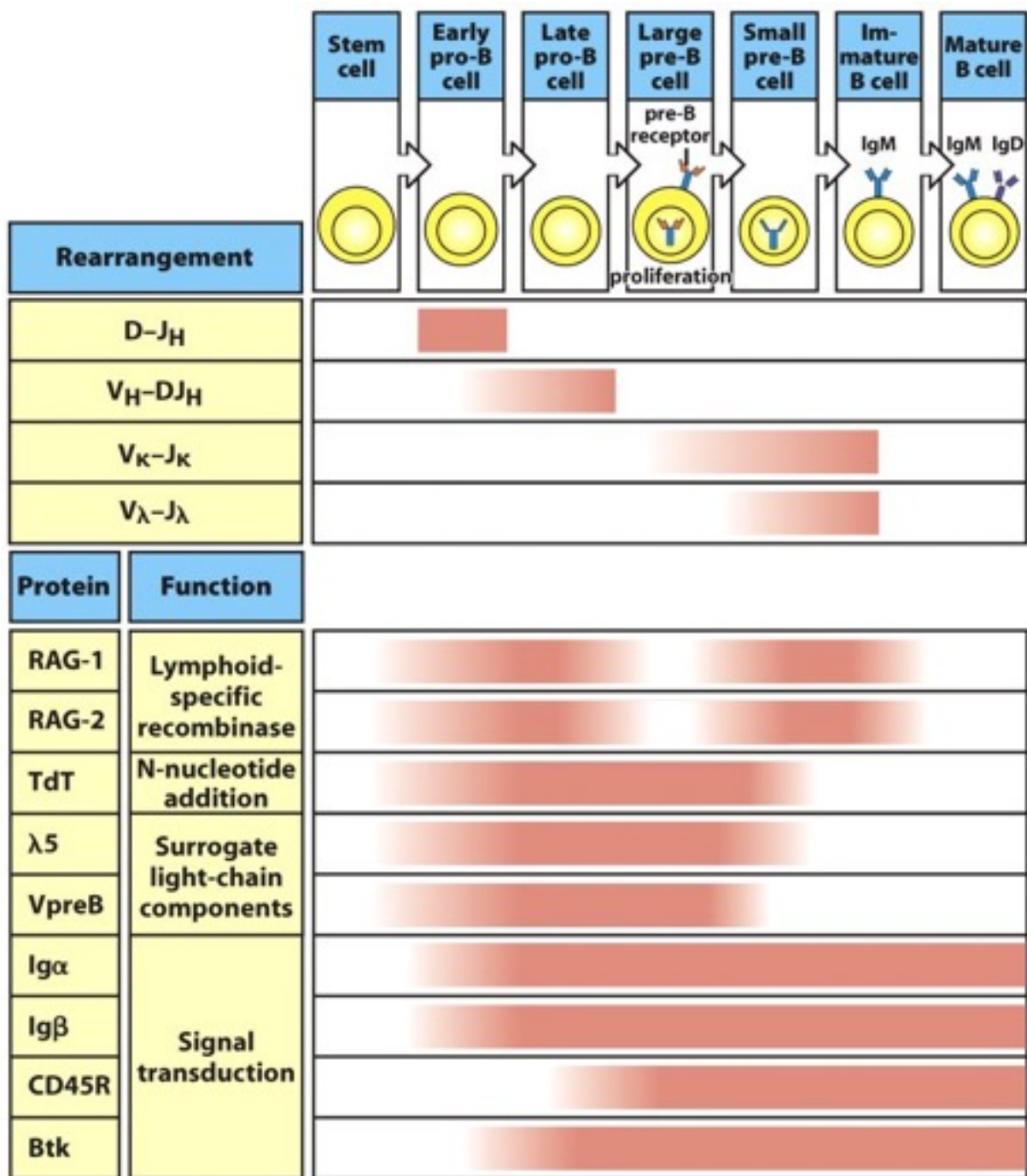


Figure 8.10 Janeway's Immunobiology, 8ed. (© Garland Science 2012)

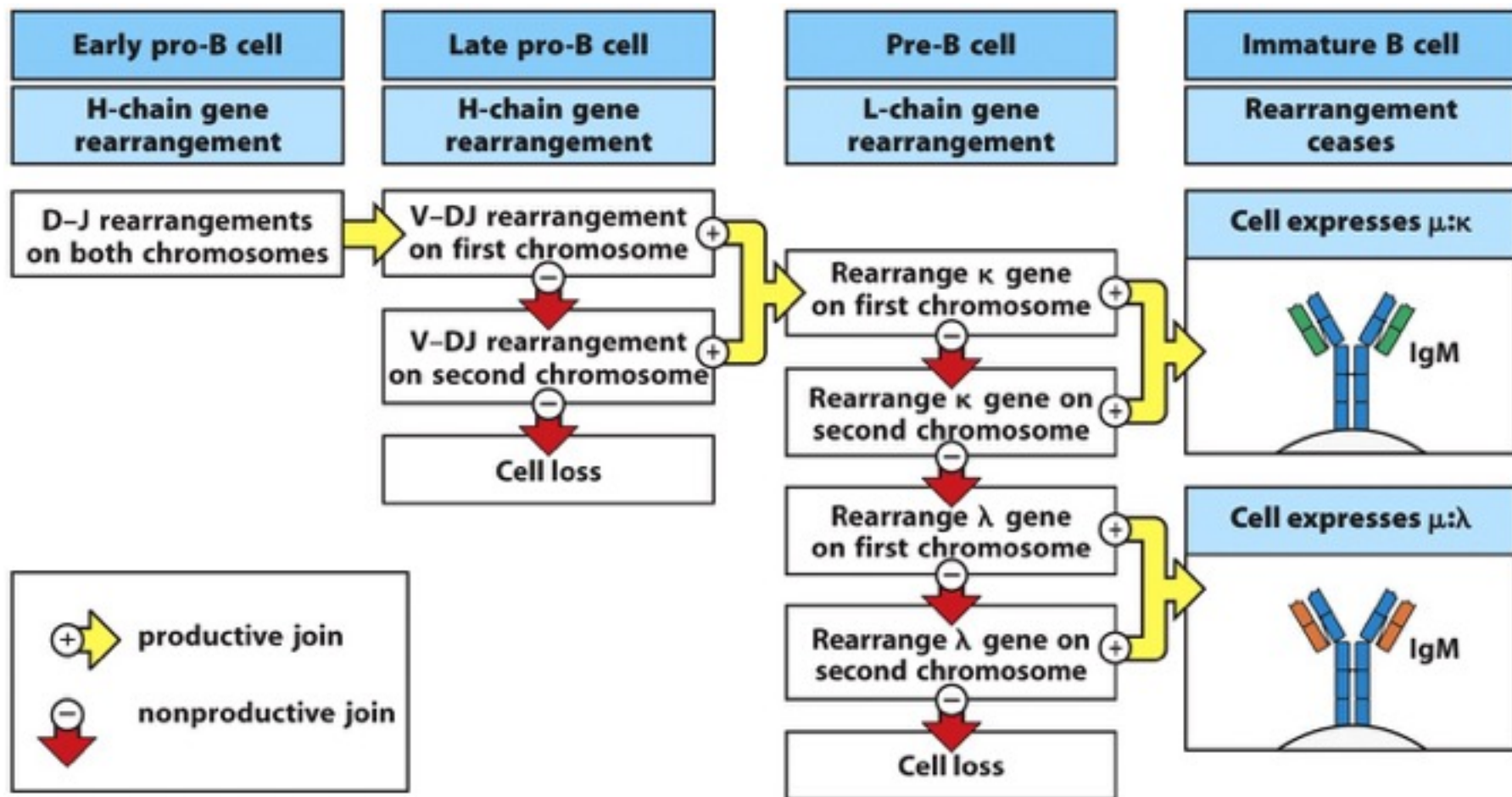


Figure 8.11 Janeway's Immunobiology, 8ed. (© Garland Science 2012)

Repeated rearrangements are possible at the light-chain loci

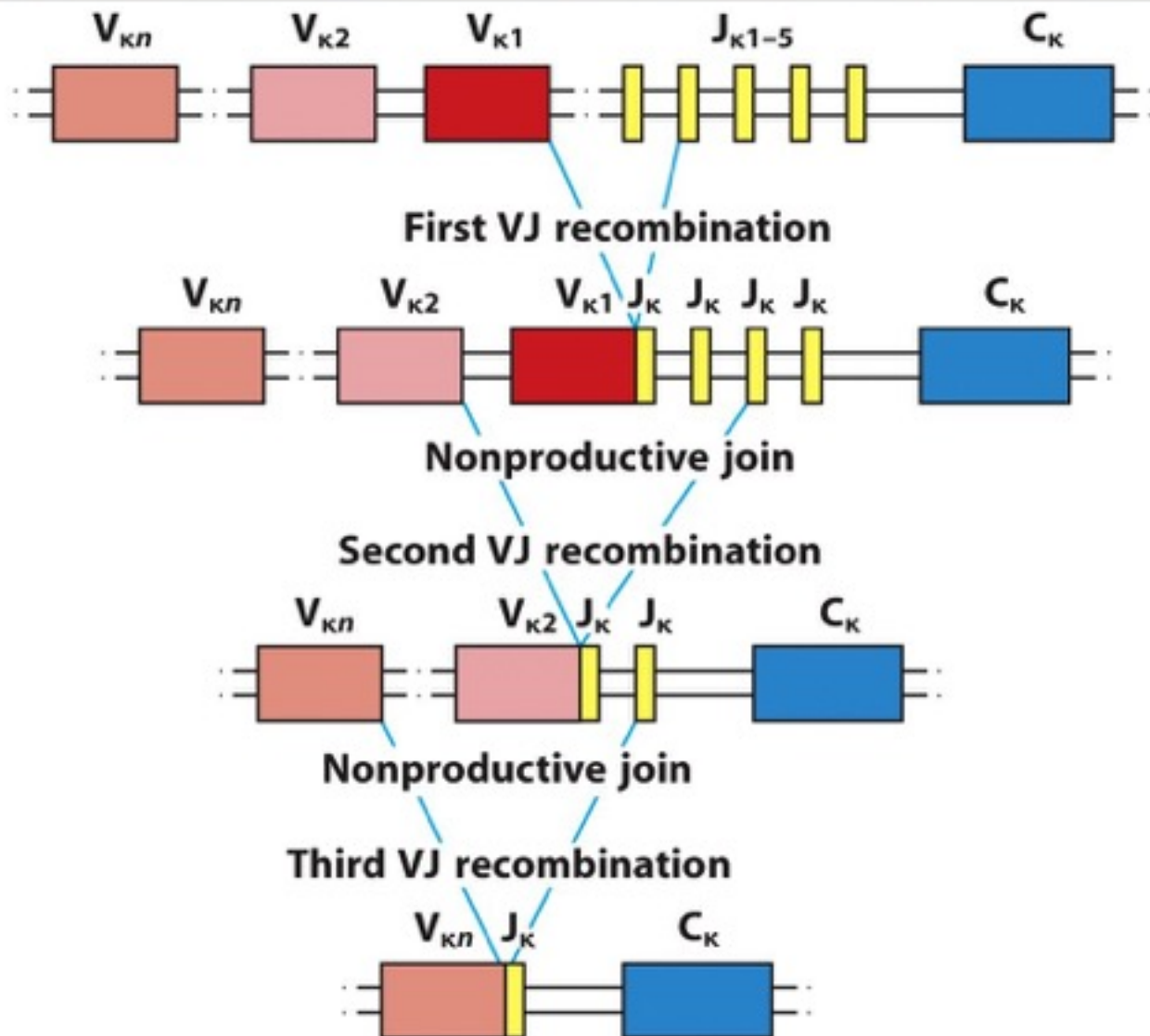


Figure 8.9 Janeway's Immunobiology, 8ed. (© Garland Science 2012)

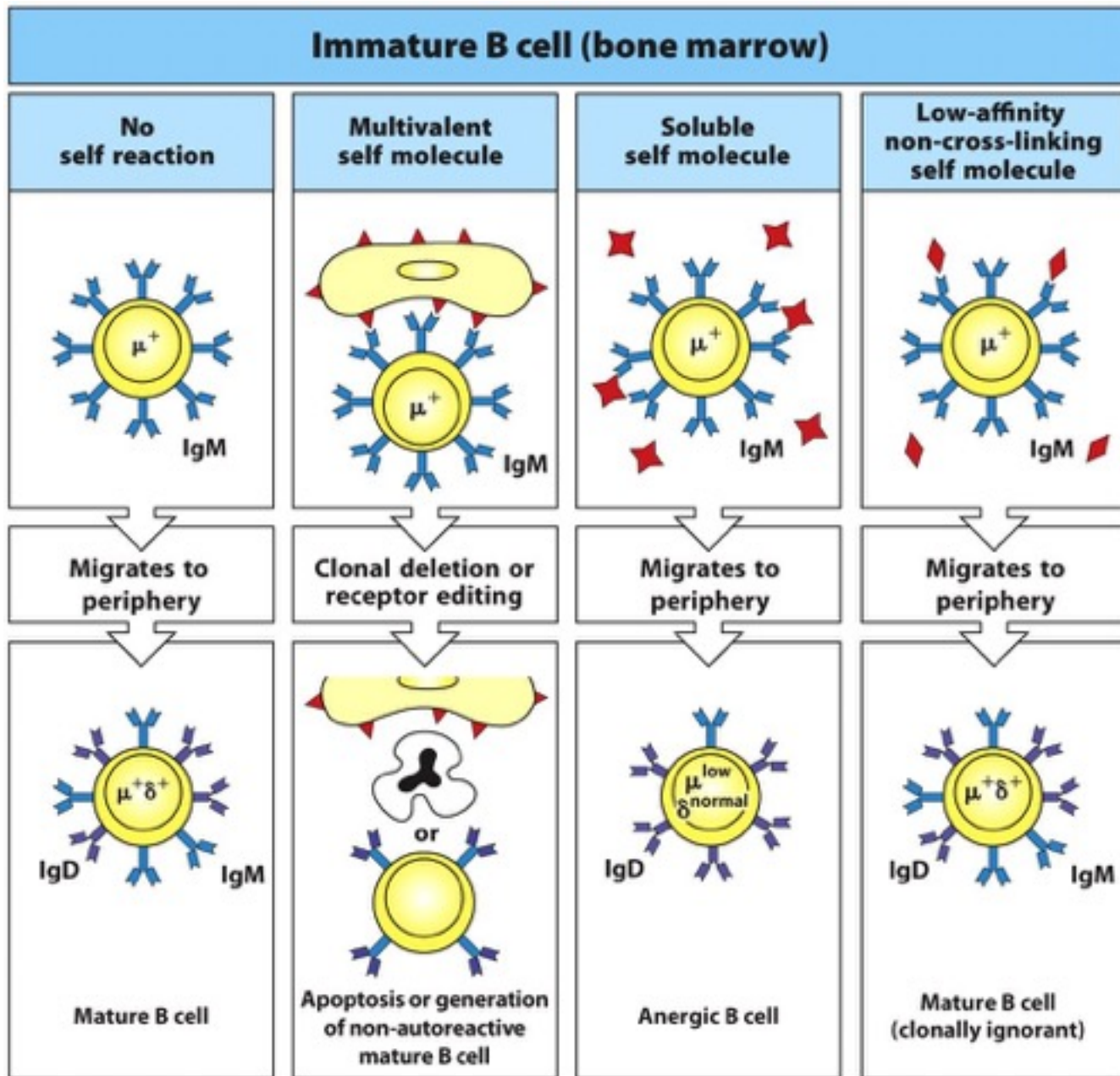


Figure 8.12 Janeway's Immunobiology, 8ed. (© Garland Science 2012)

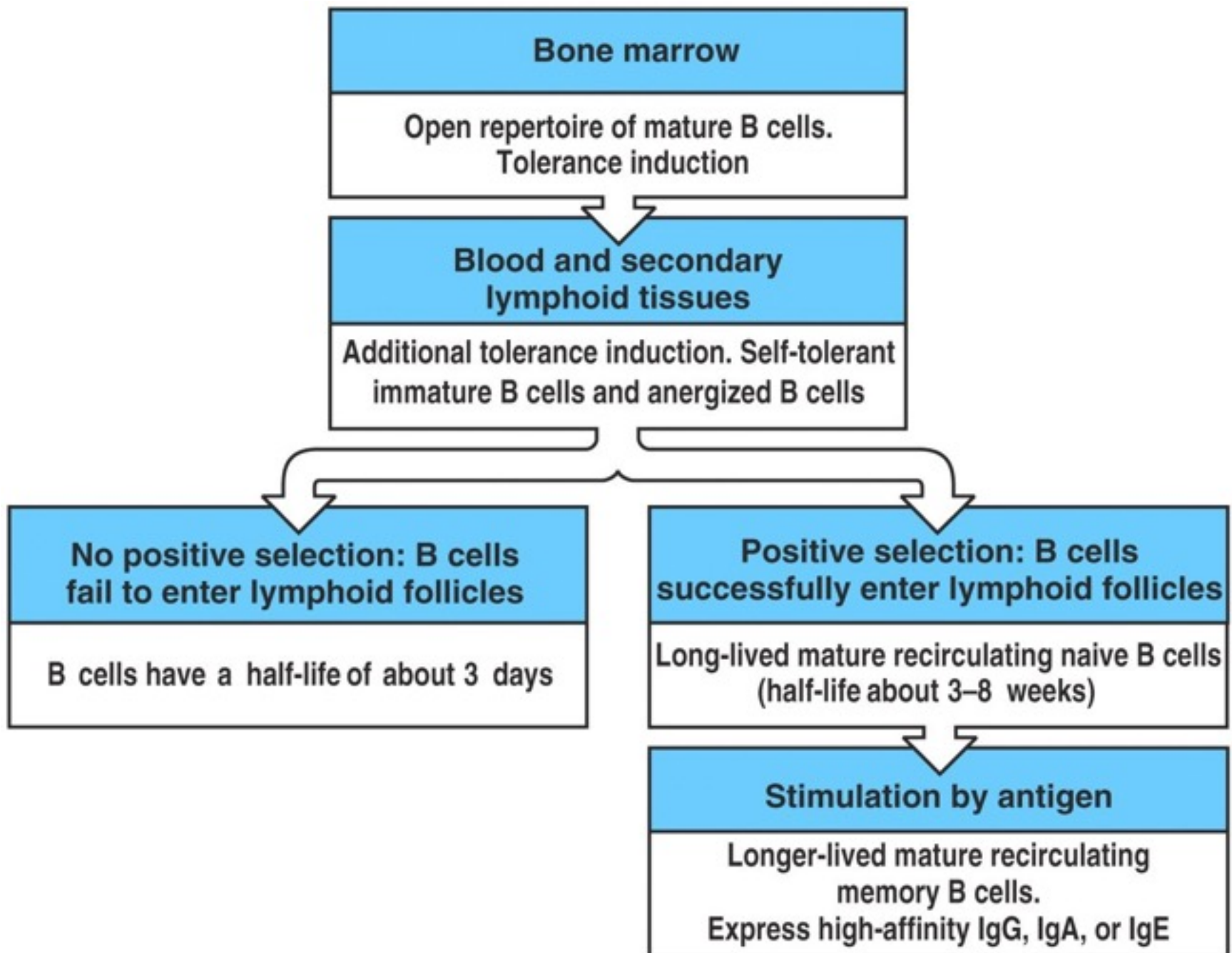


Figure 7-40 Immunobiology, 6/e. (© Garland Science 2005)

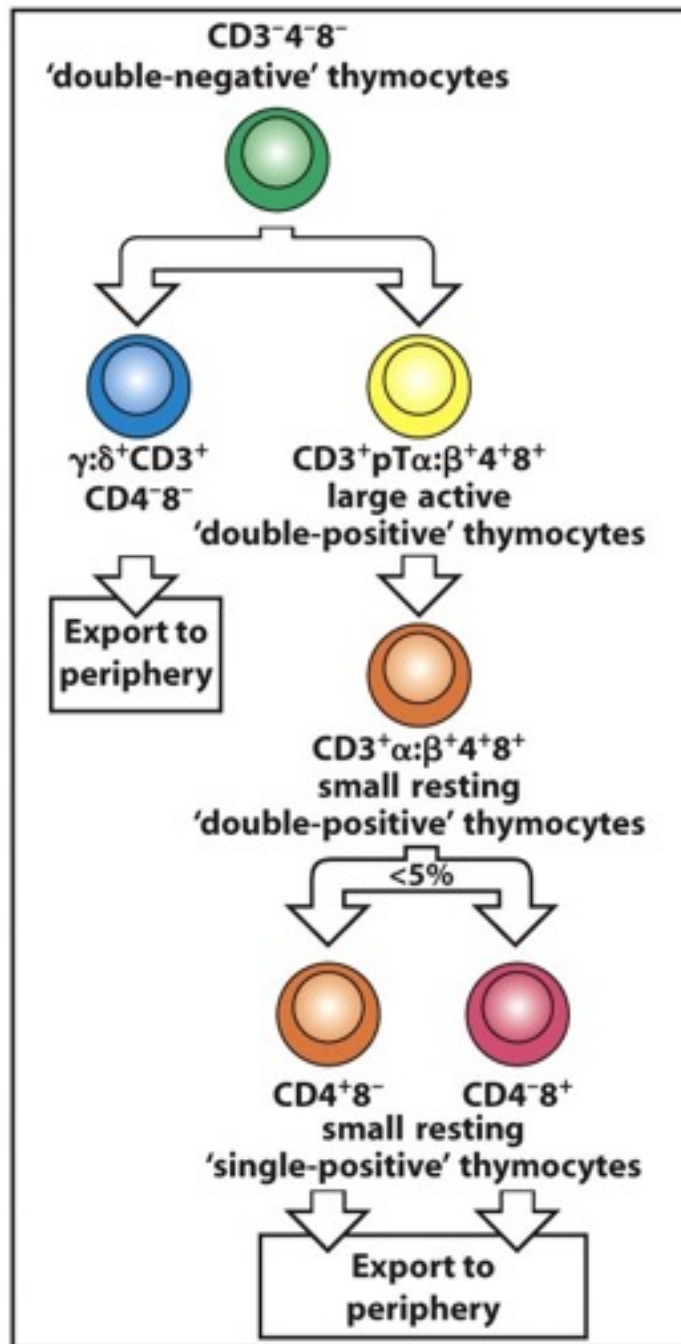


Figure 8.19 Janeway's Immunobiology, 8ed. (© Garland Science 2012)

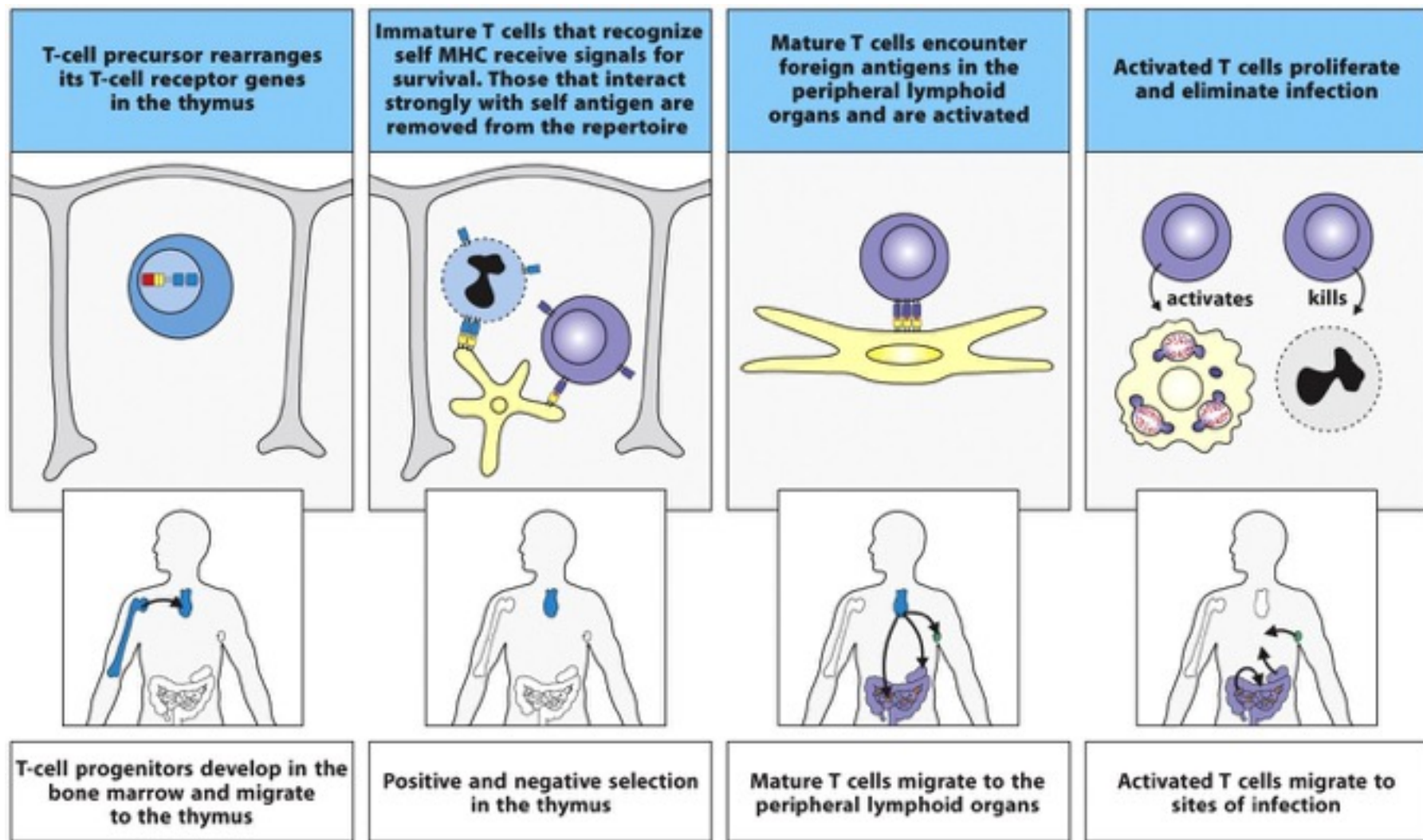


Figure 8.14 Janeway's Immunobiology, 8ed. (© Garland Science 2012)

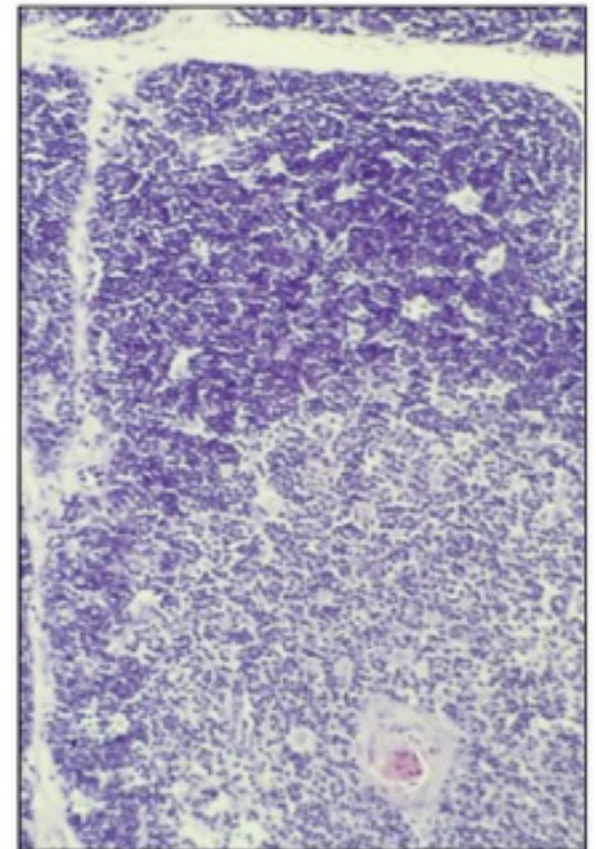
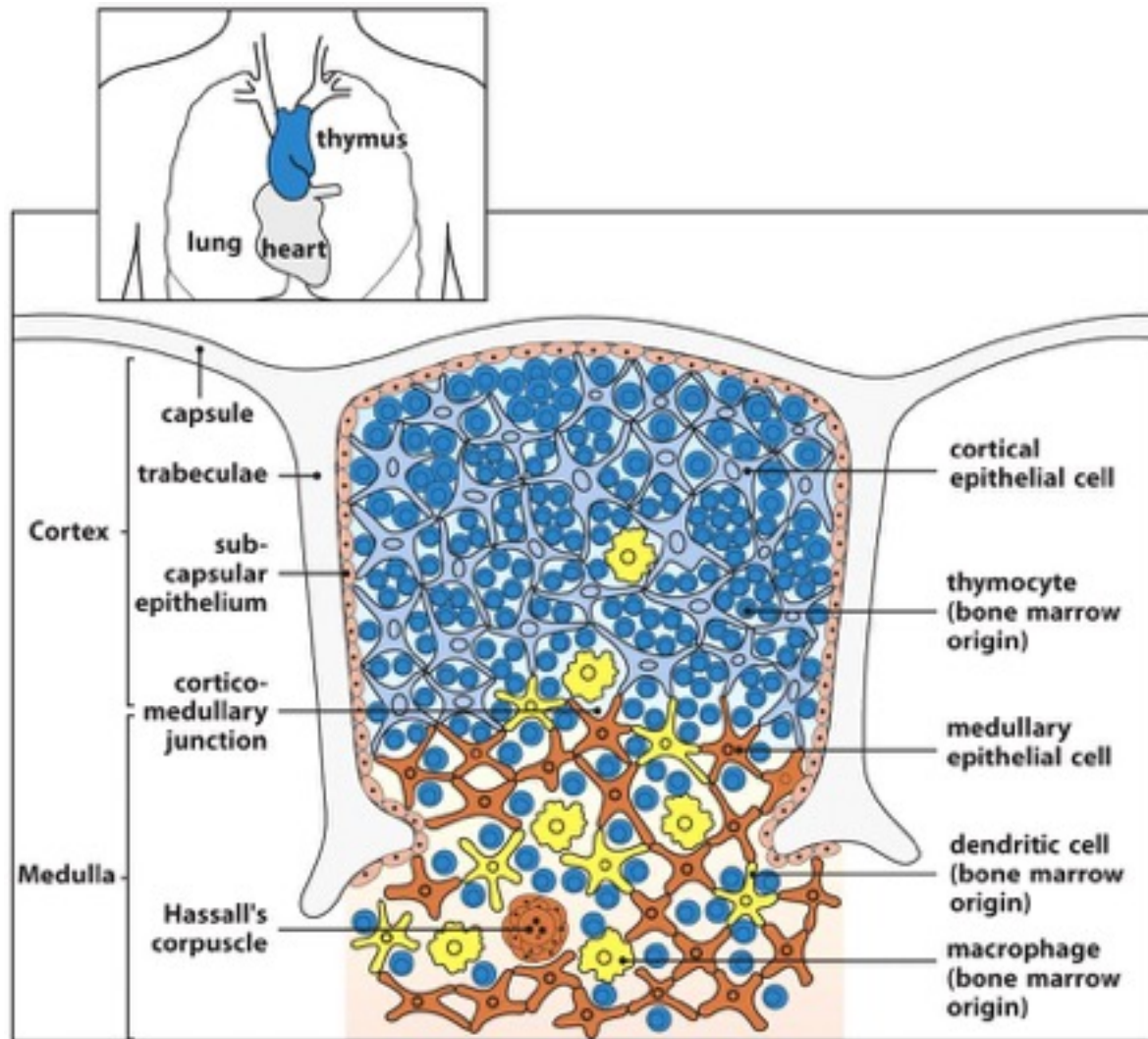
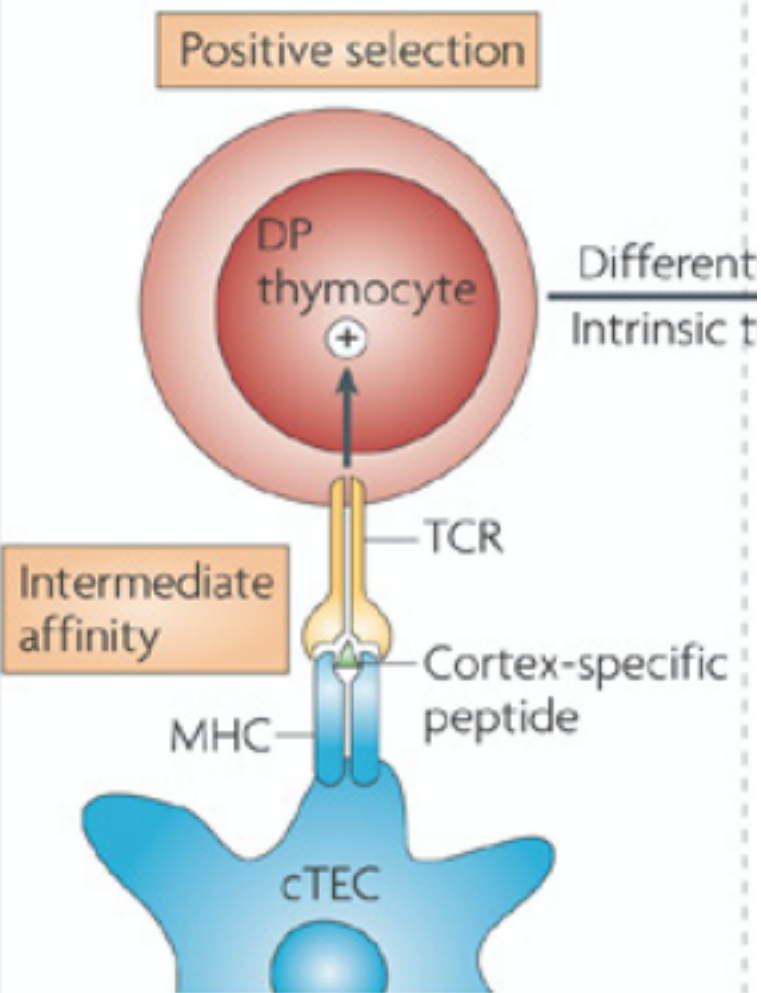


Figure 8.15 Janeway's Immunobiology, 8ed. (© Garland Science 2012)

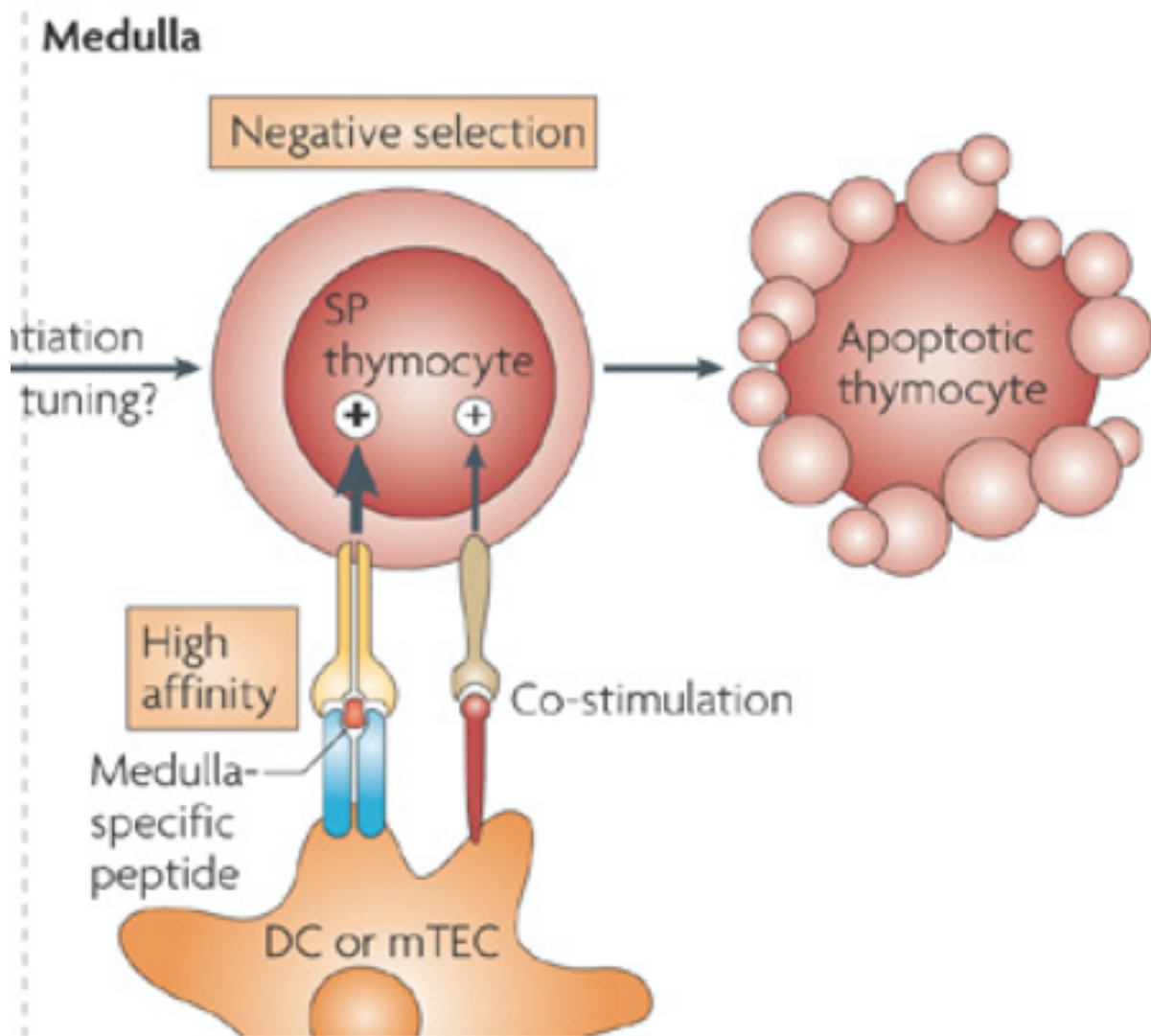
a Deletion by high-affinity medulla-specific peptide

Cortex



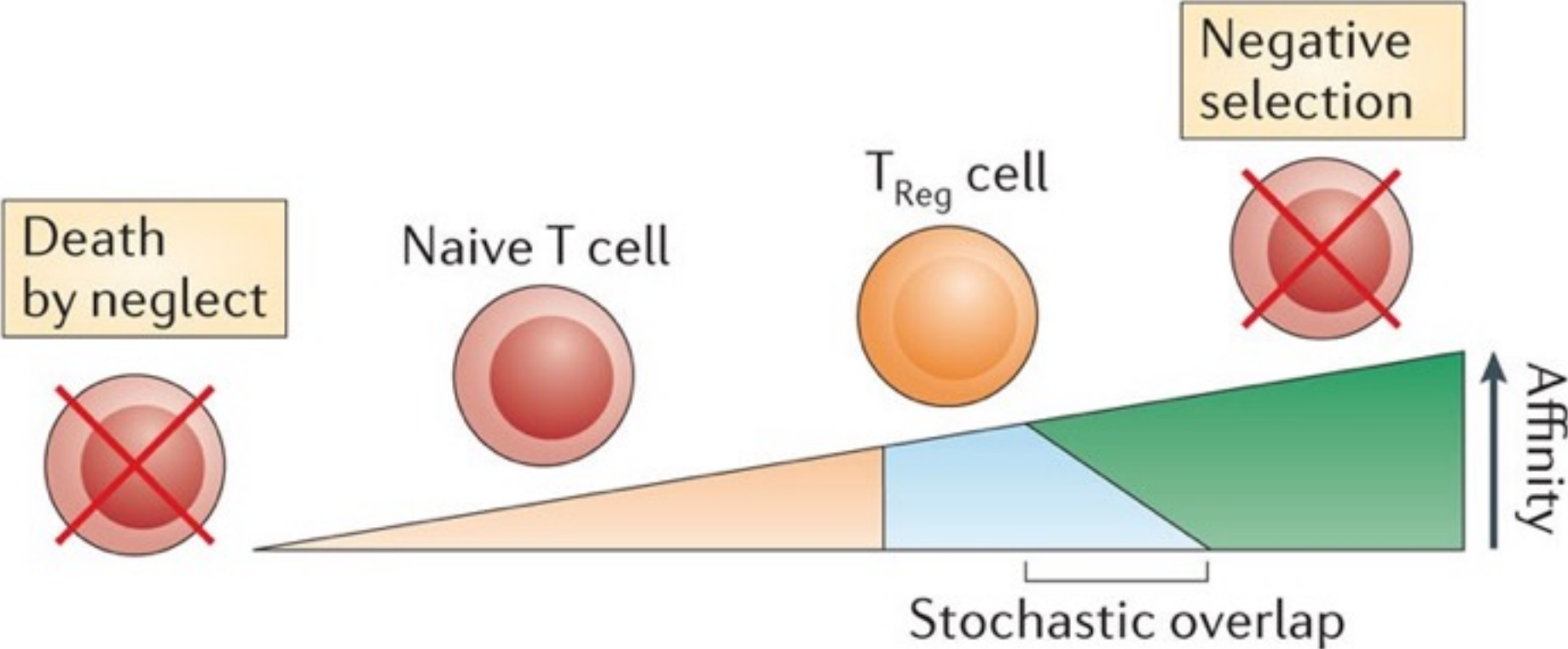
**Seleção Positiva
determinada pelo
MHC próprio**

a Deletion by high-affinity medulla-specific peptide



**Seleção Negativa
determinada pelos
antígenos próprios**

Quatro destinos para os linfócitos T



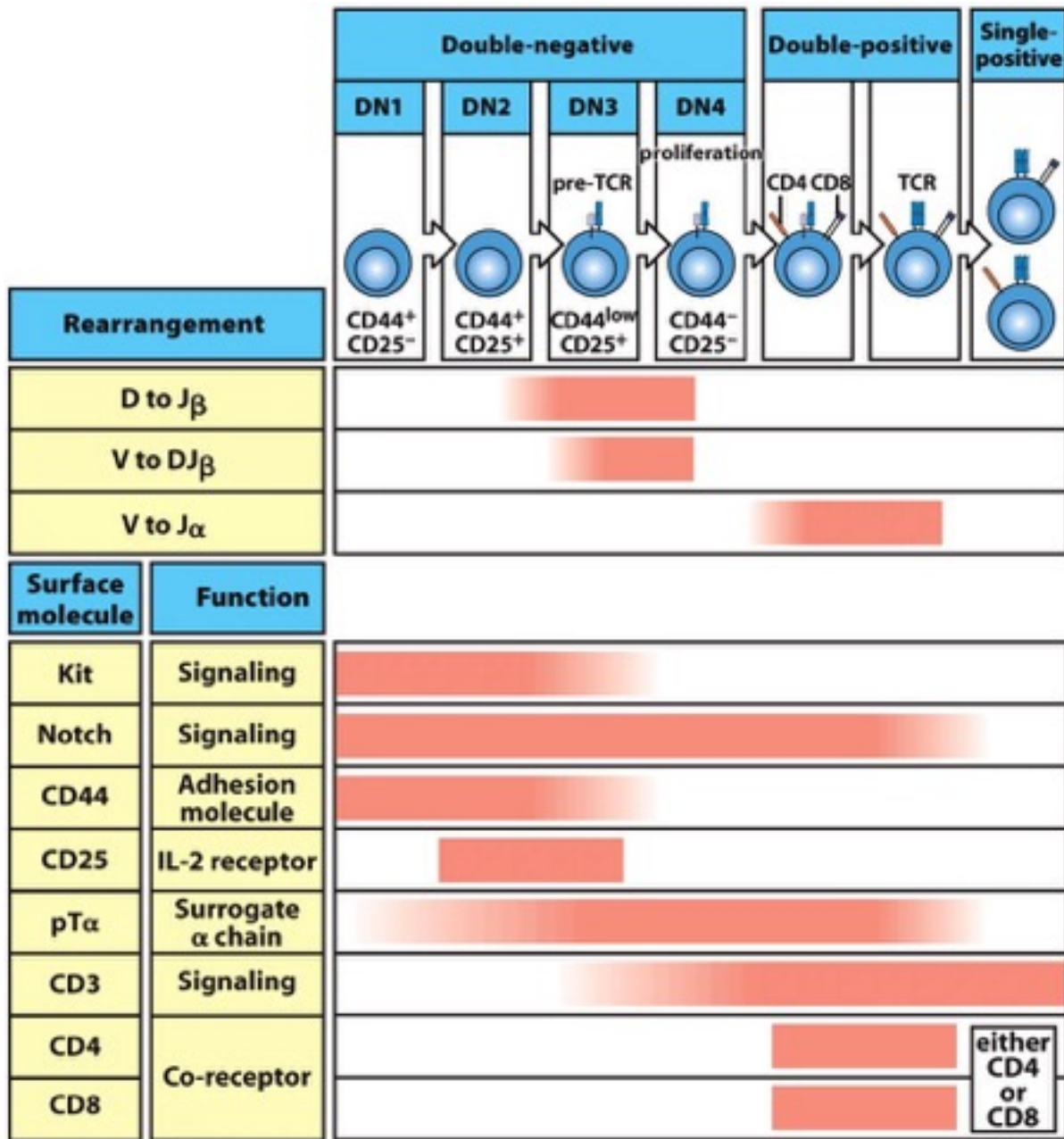


Figure 8.20 Janeway's Immunobiology, 8ed. (© Garland Science 2012)

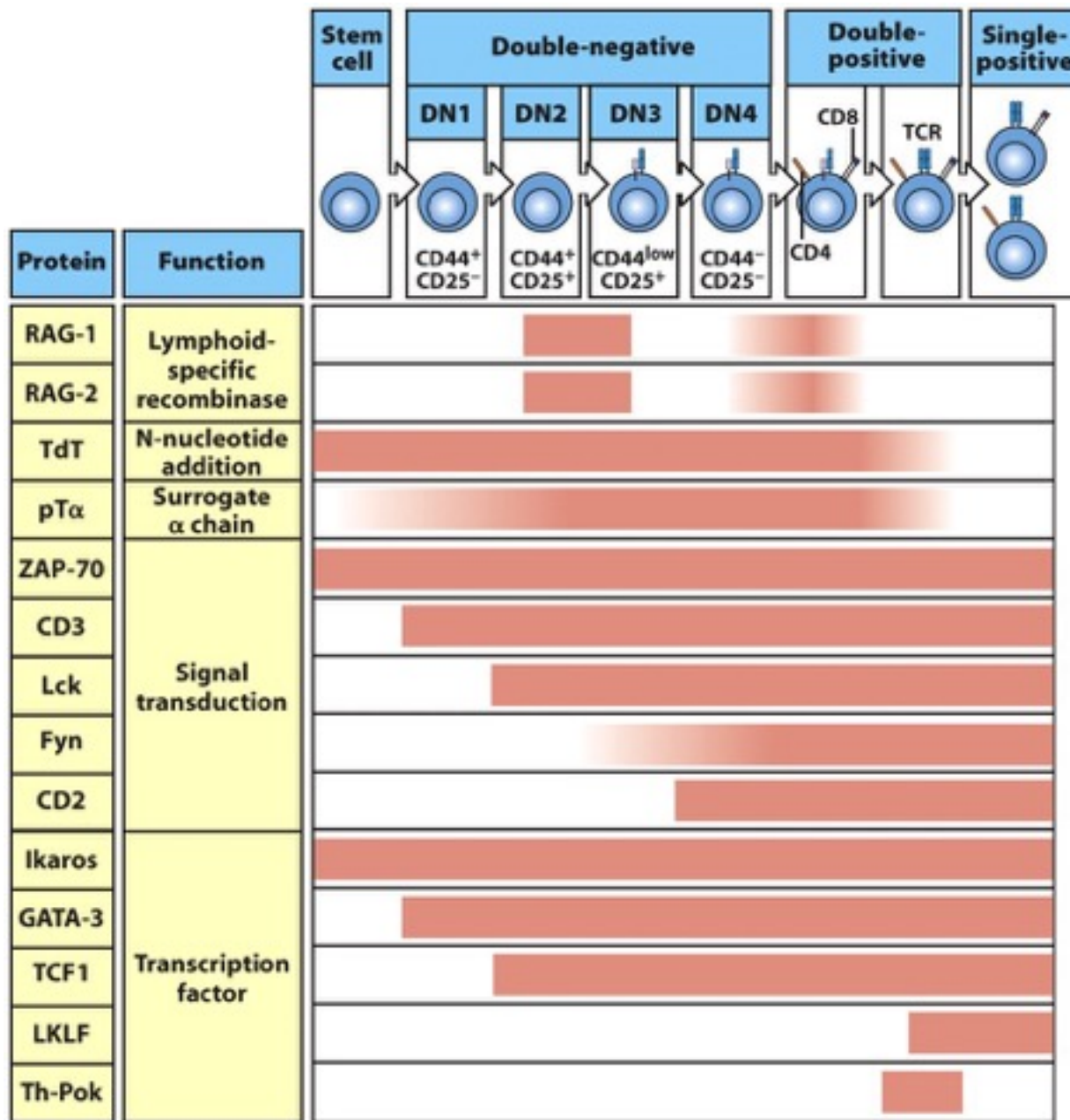


Figure 8.26 Janeway's Immunobiology, 8ed. (© Garland Science 2012)

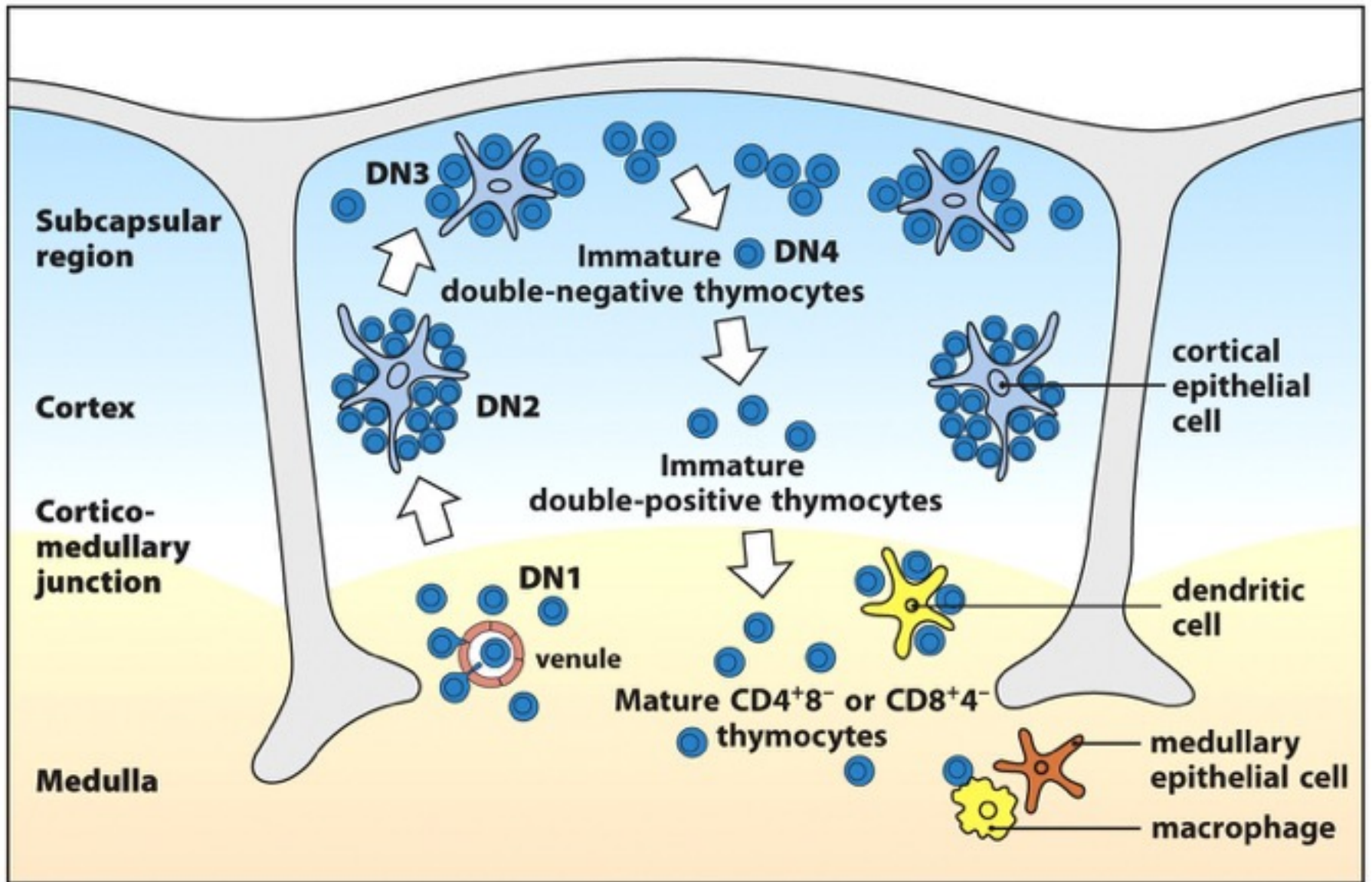


Figure 8.21 Janeway's Immunobiology, 8ed. (© Garland Science 2012)

E o TCR gamma-delta?

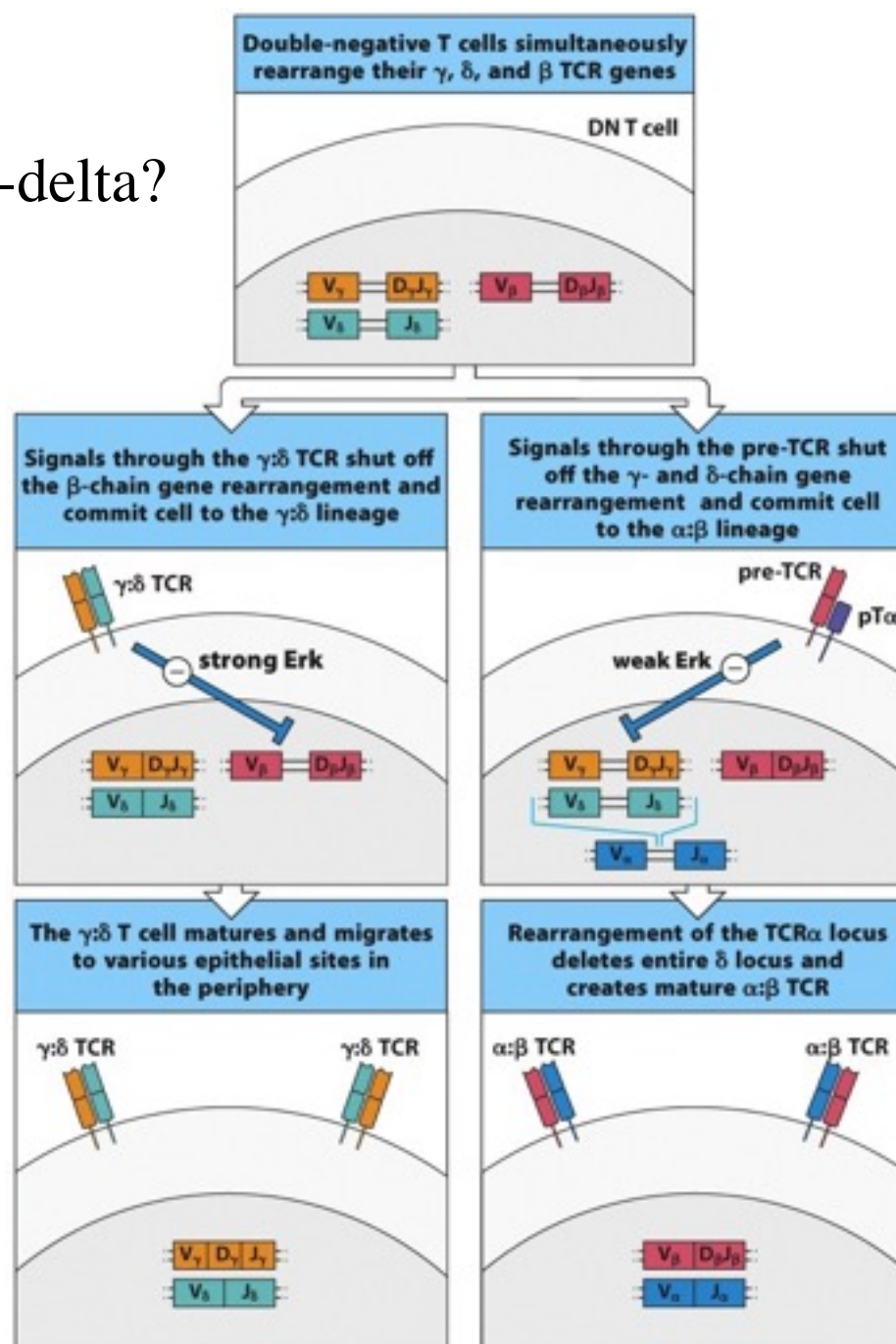


Figure 8.22 Janeway's Immunobiology, 8ed. (© Garland Science 2012)

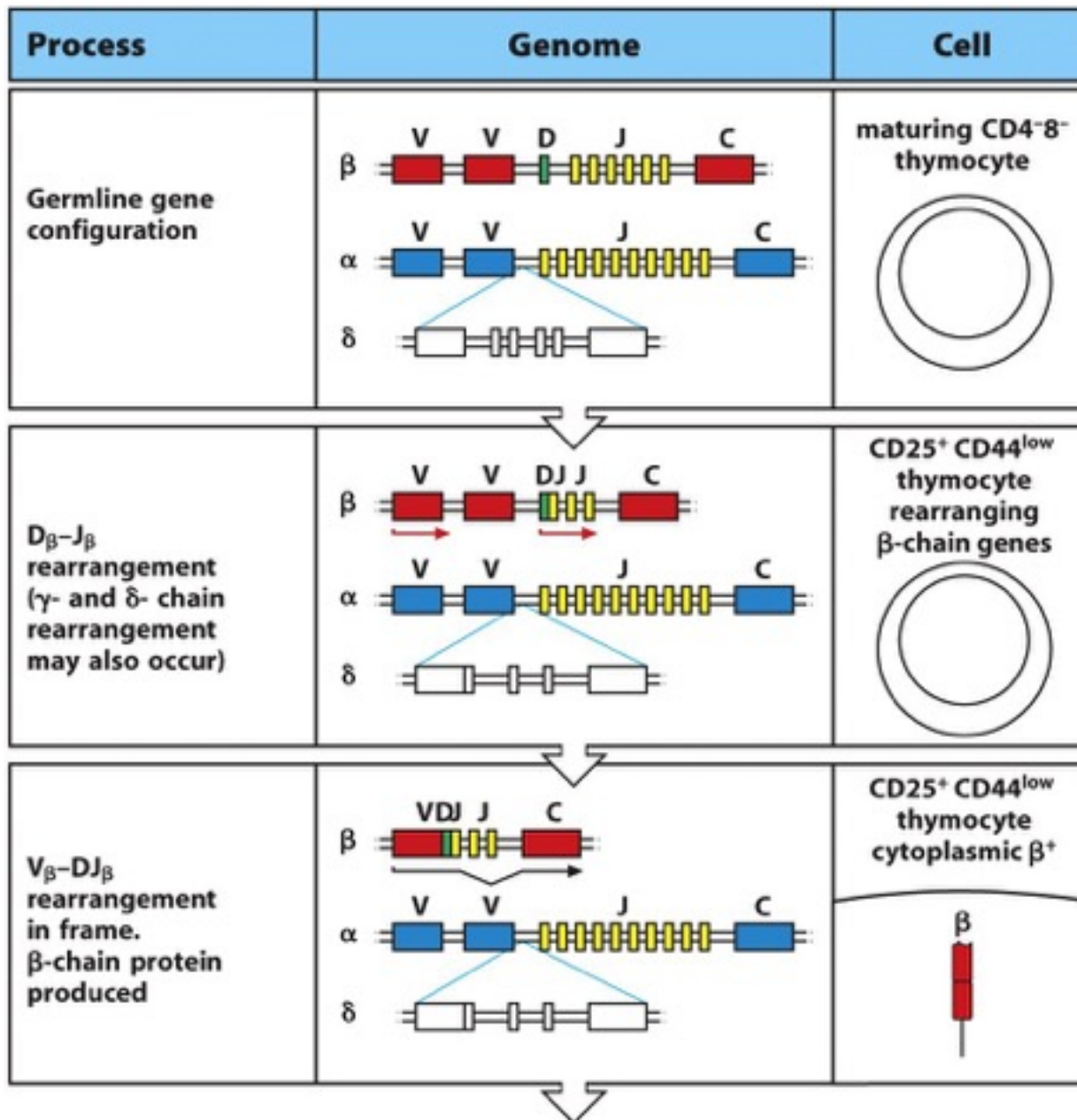


Figure 8.25 part 1 of 2 Janeway's Immunobiology, 8ed. (© Garland Science 2012)

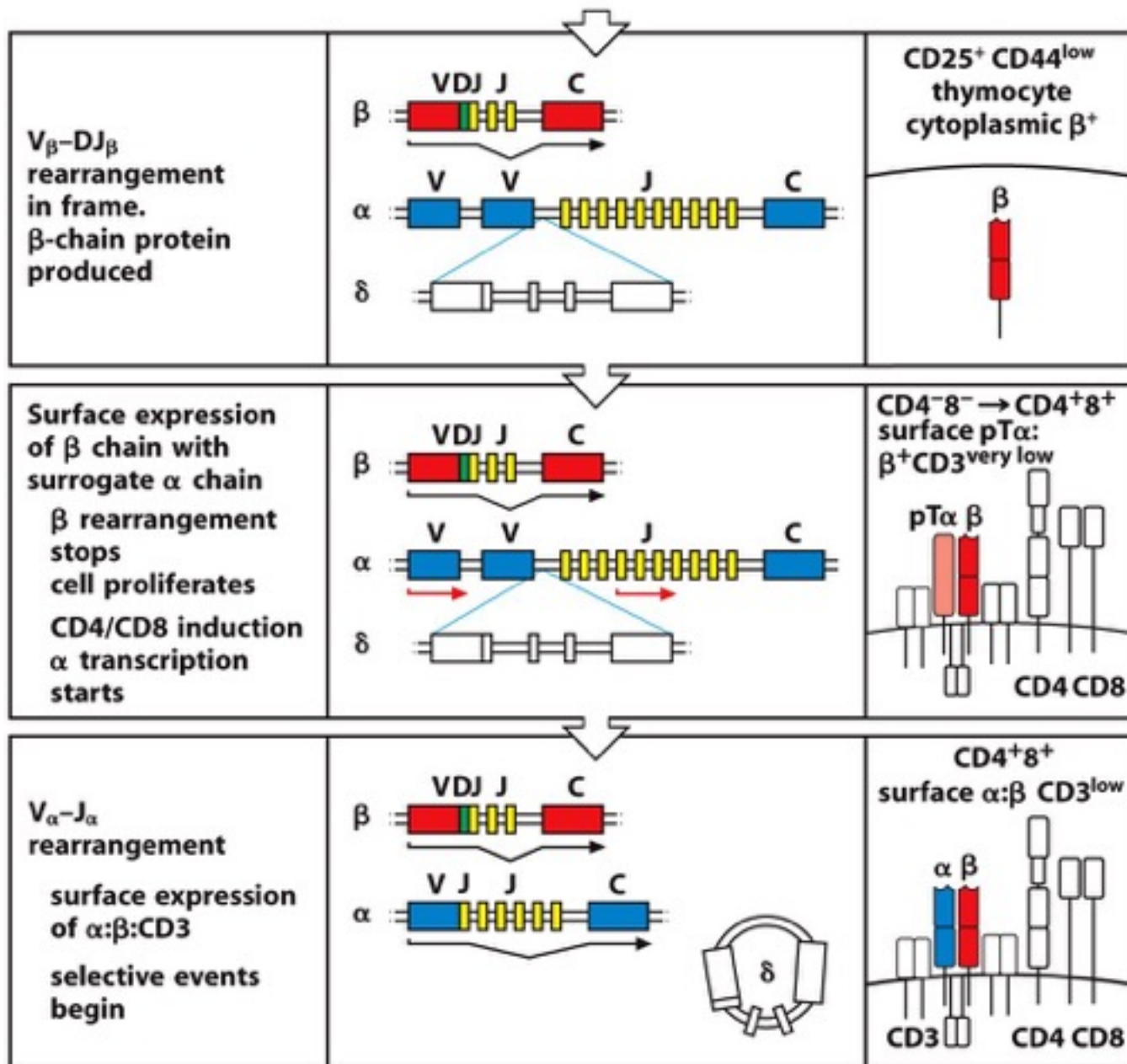


Figure 8.25 part 2 of 2 Janeway's Immunobiology, 8ed. (© Garland Science 2012)

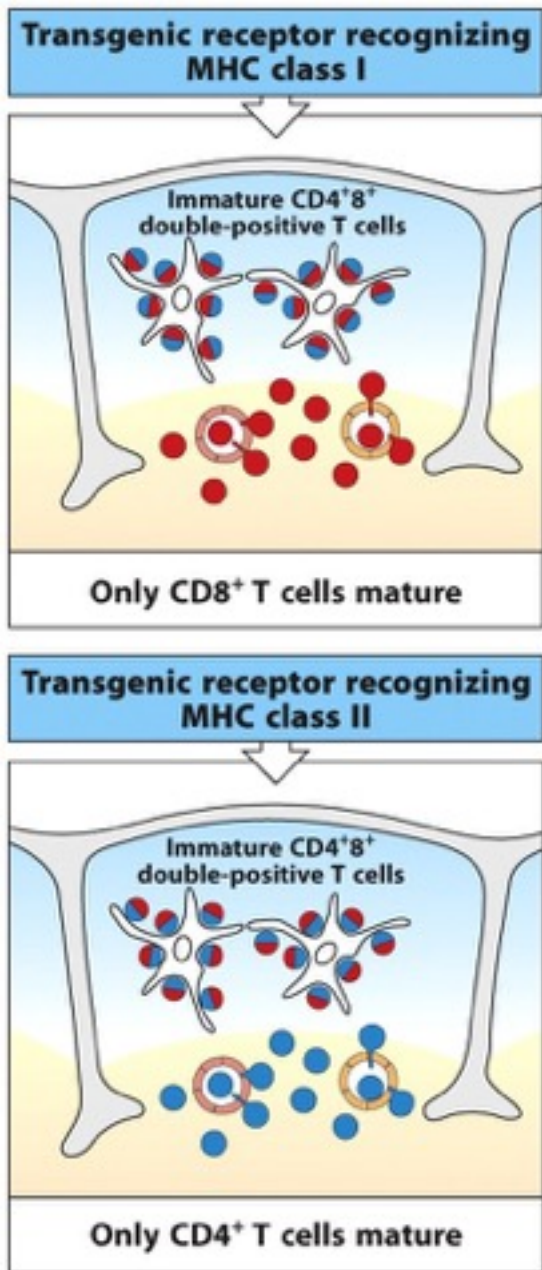


Figure 8.30 Janeway's Immunobiology, Bed. (© Garland Science 2012)