

HUMORAL İMMUN YANIT

İmmun
yanıt

humoral

İşlenme
koşulu

T
bağımlı

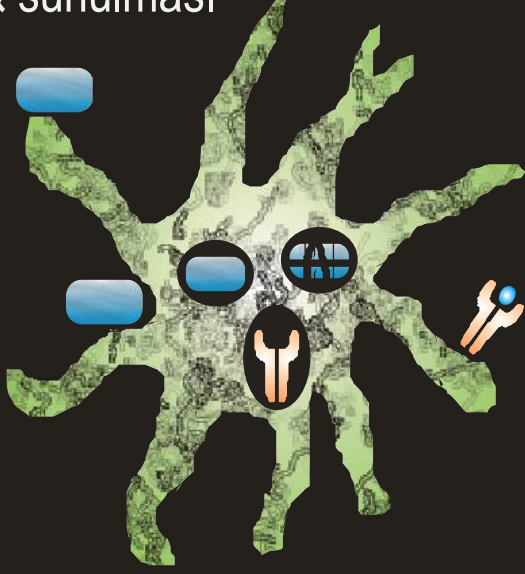
T
bağımsız

Antijen

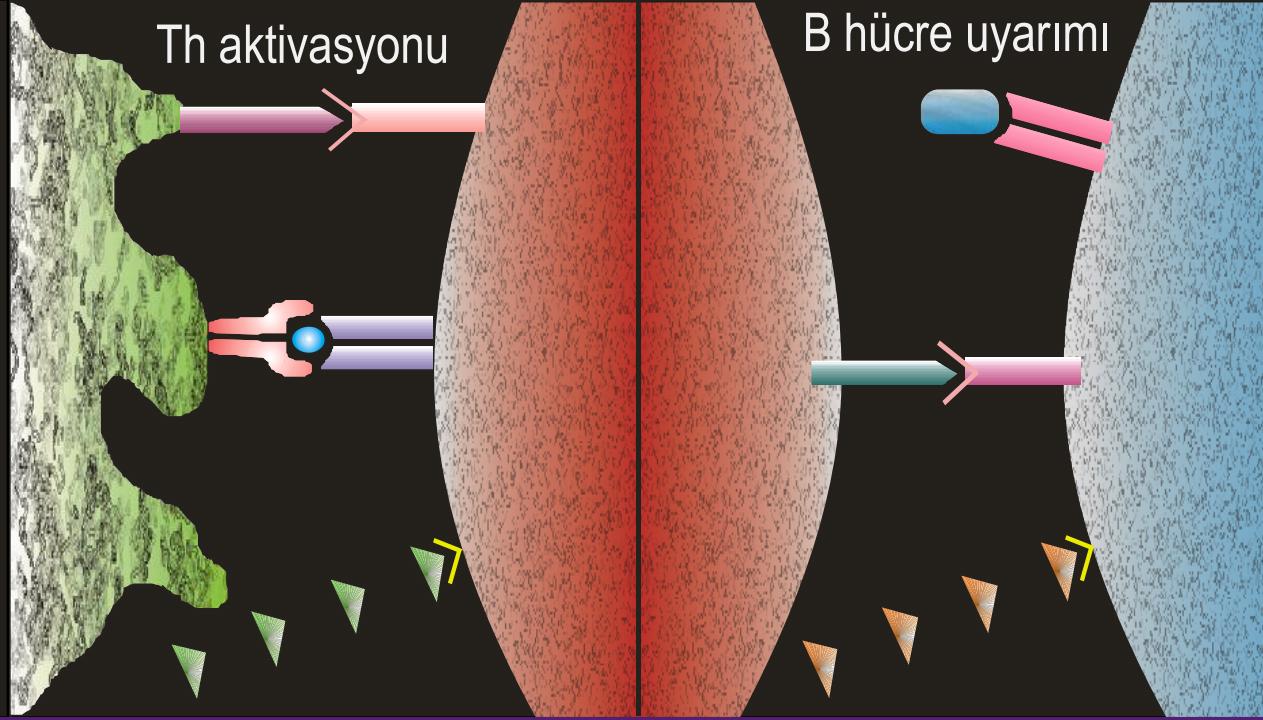
protein

diğer

antijen işlenmesi & sunulması

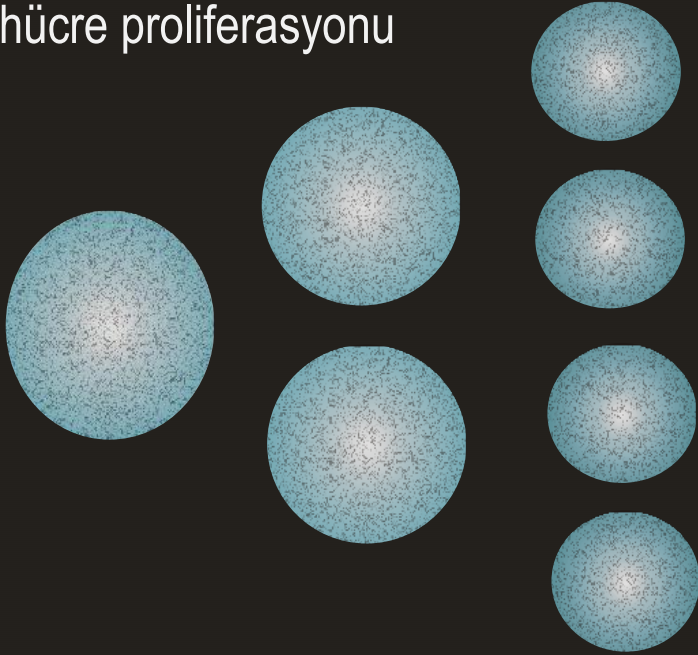


Th aktivasyonu

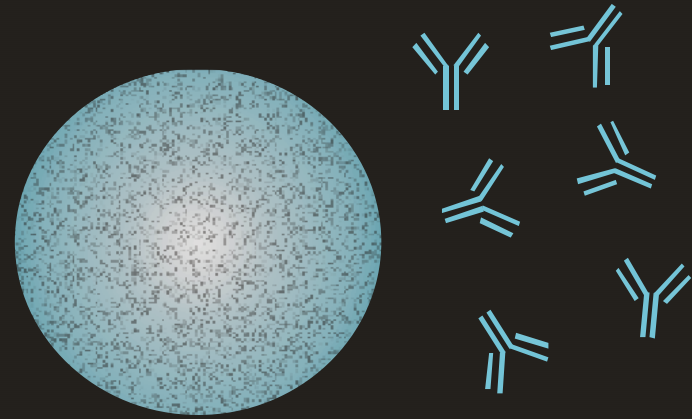


B hücre uyarımı

B hücre proliferasyonu



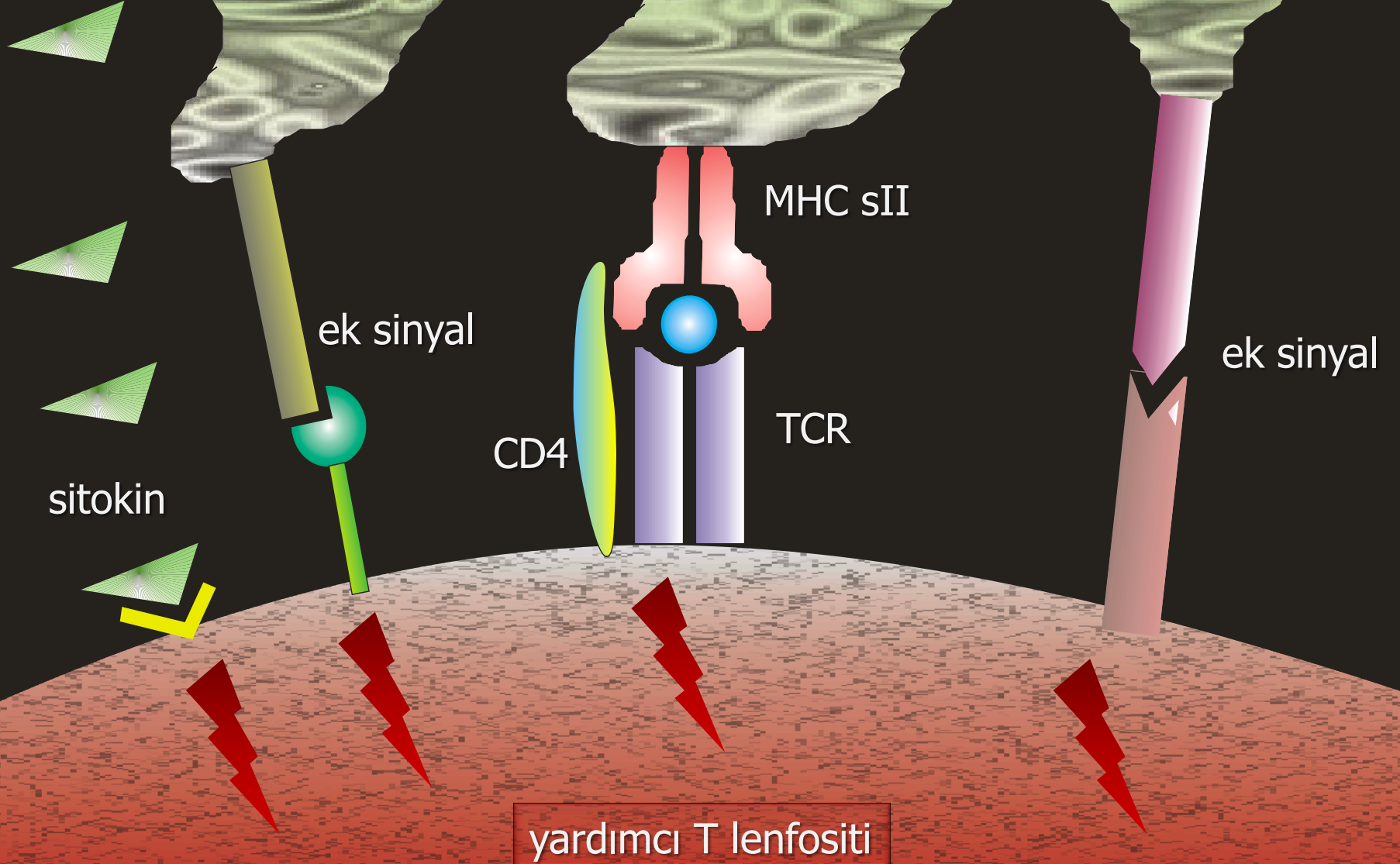
antikor üretimi



Humoral İmmun Yanıt Aşamaları

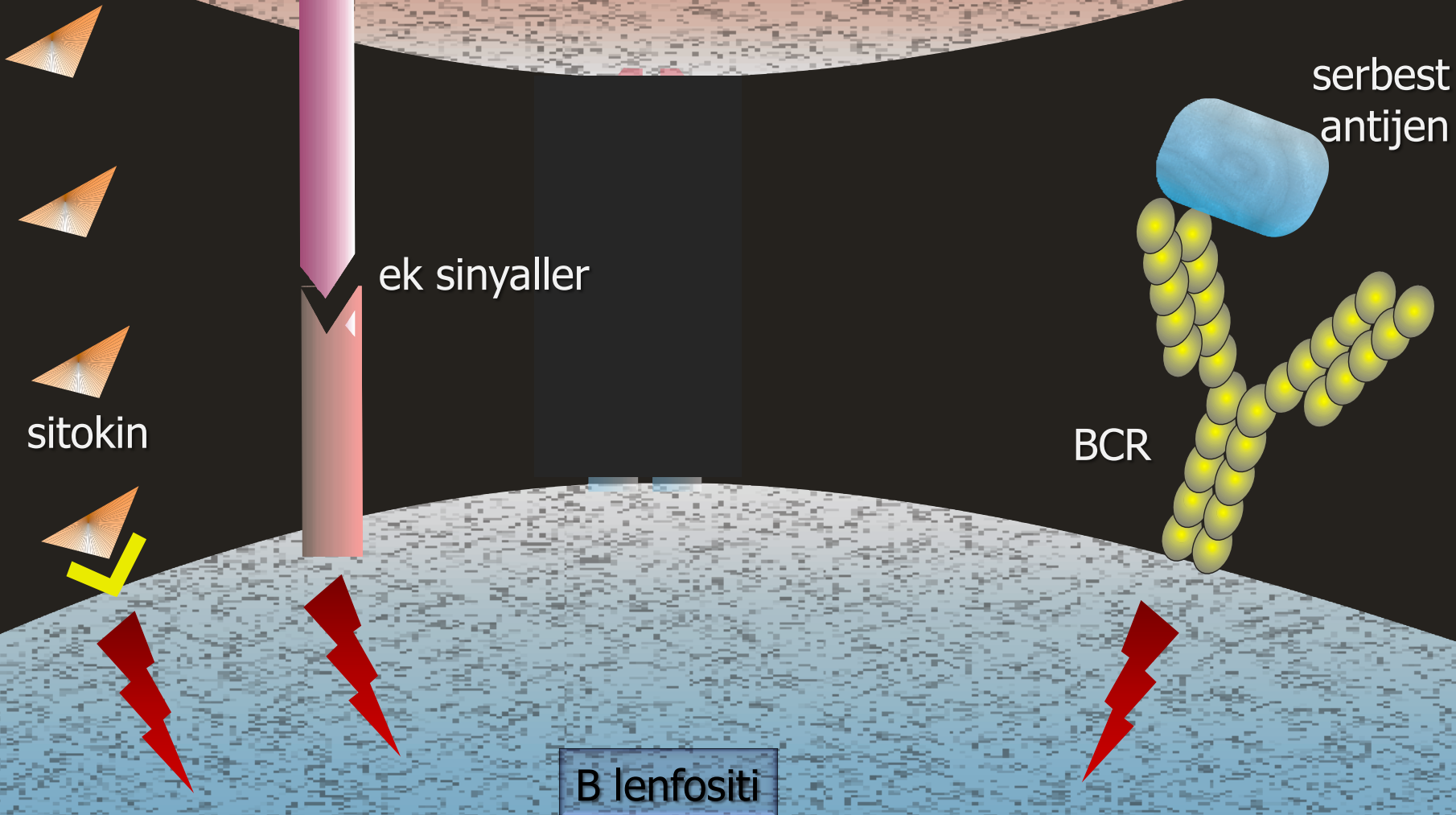
Antijen Sunulması

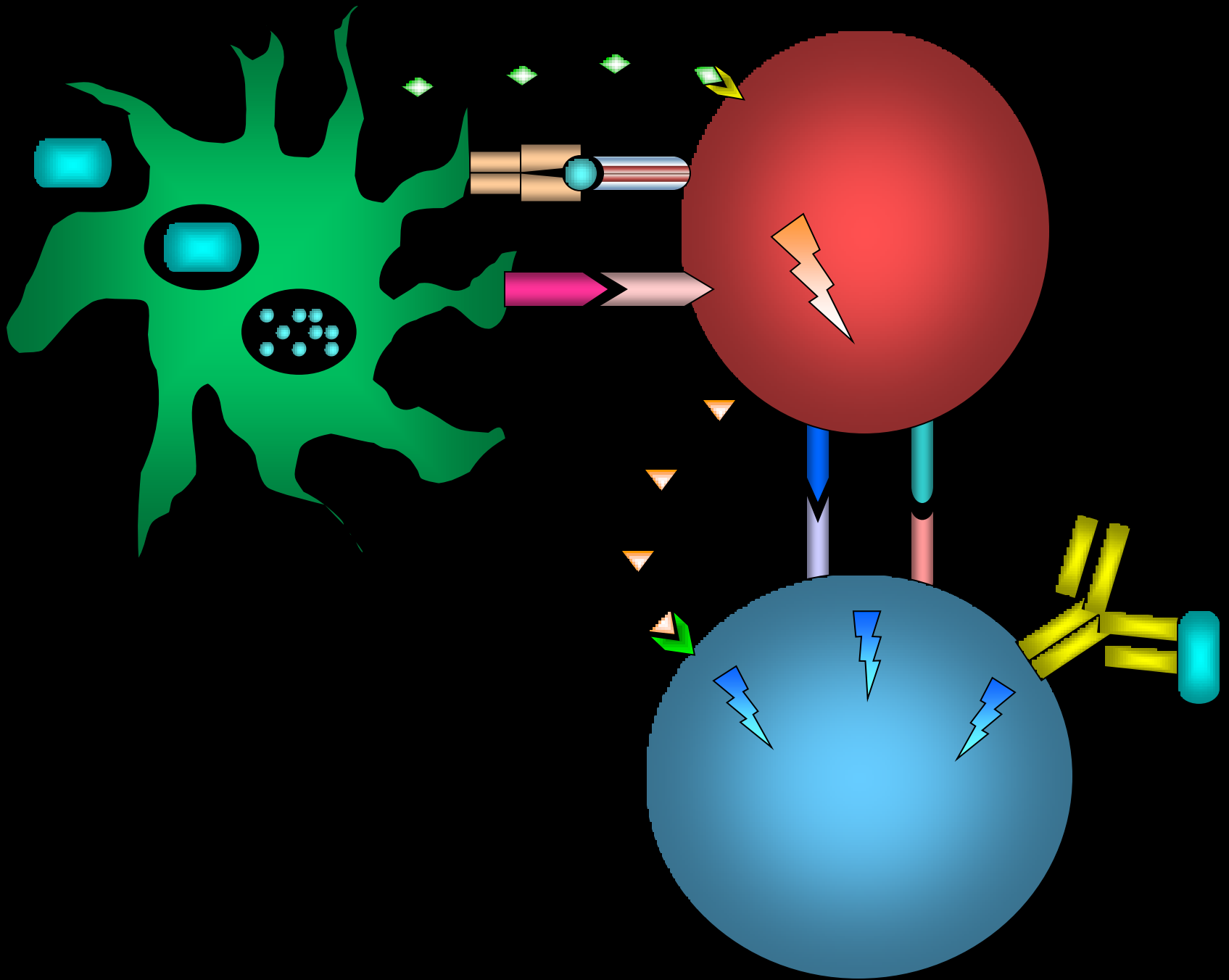
antijen sunan hücre

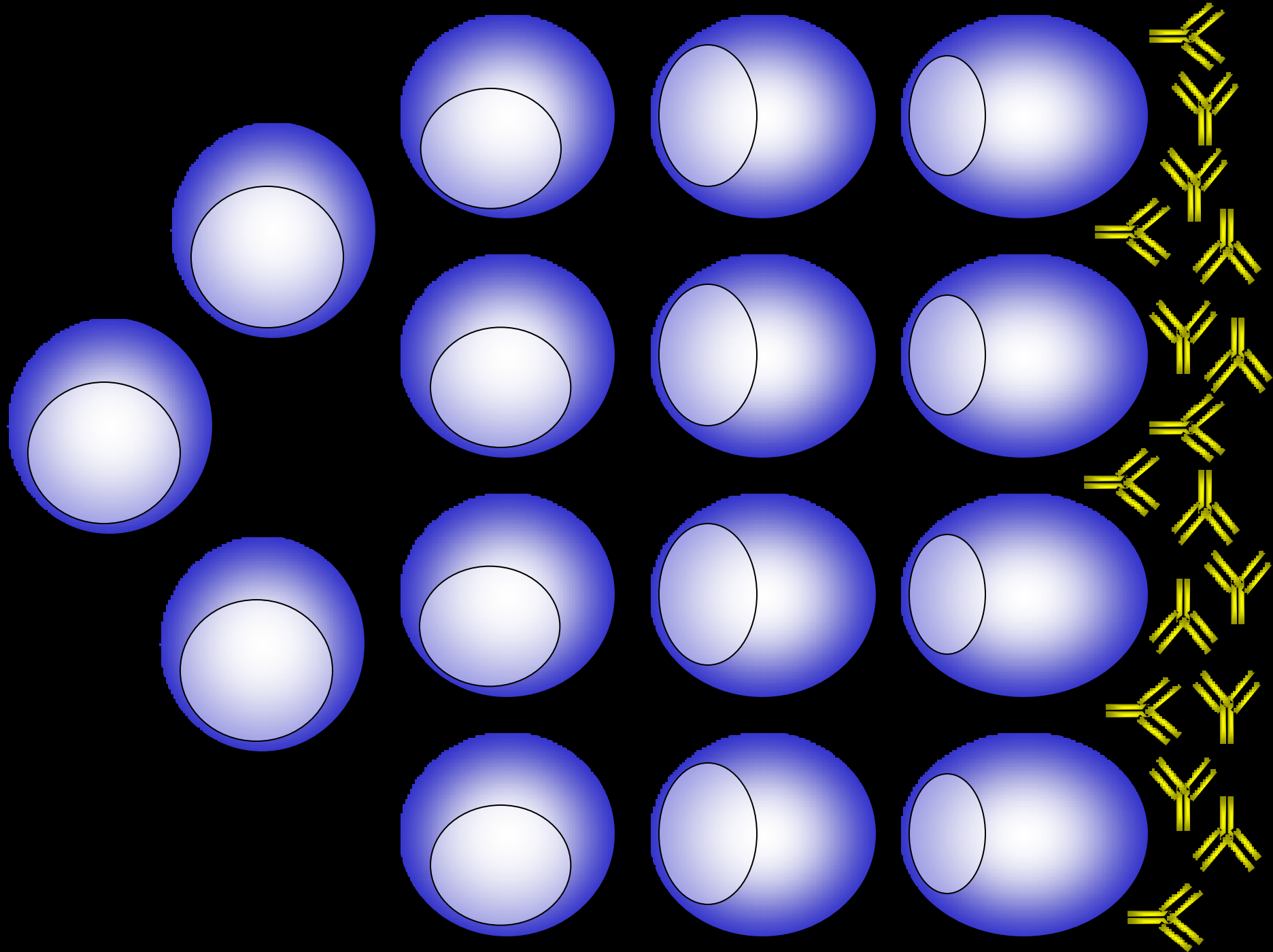


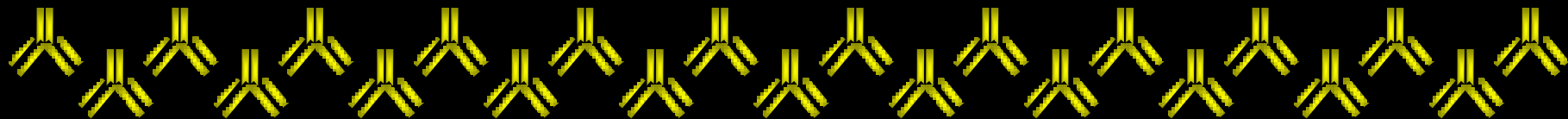
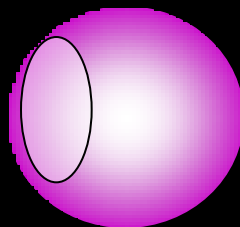
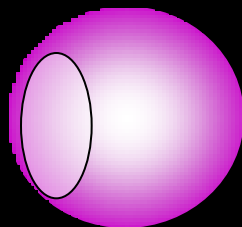
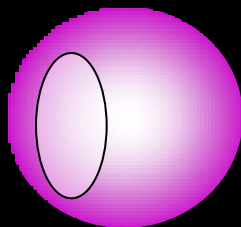
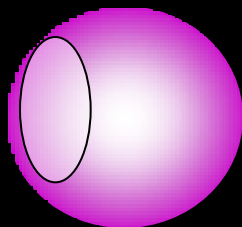
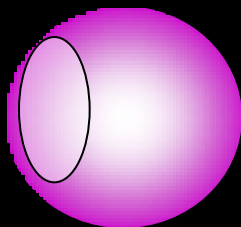
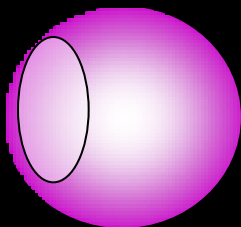
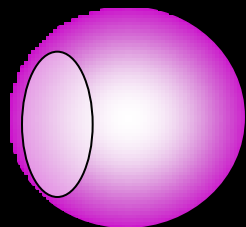
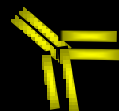
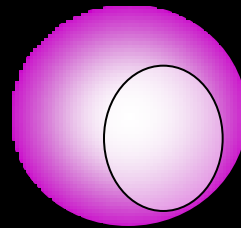
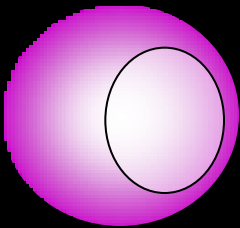
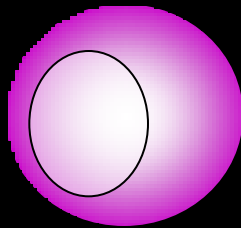
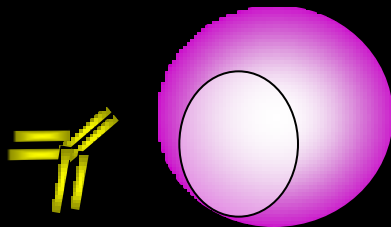
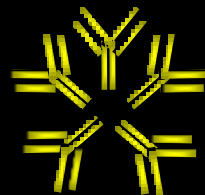
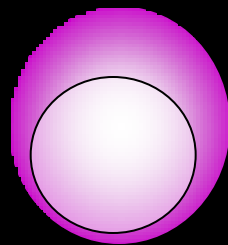
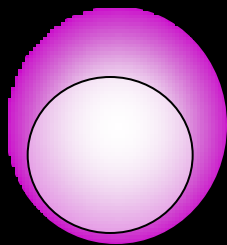
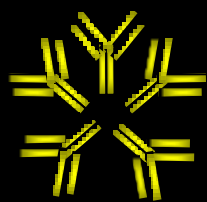
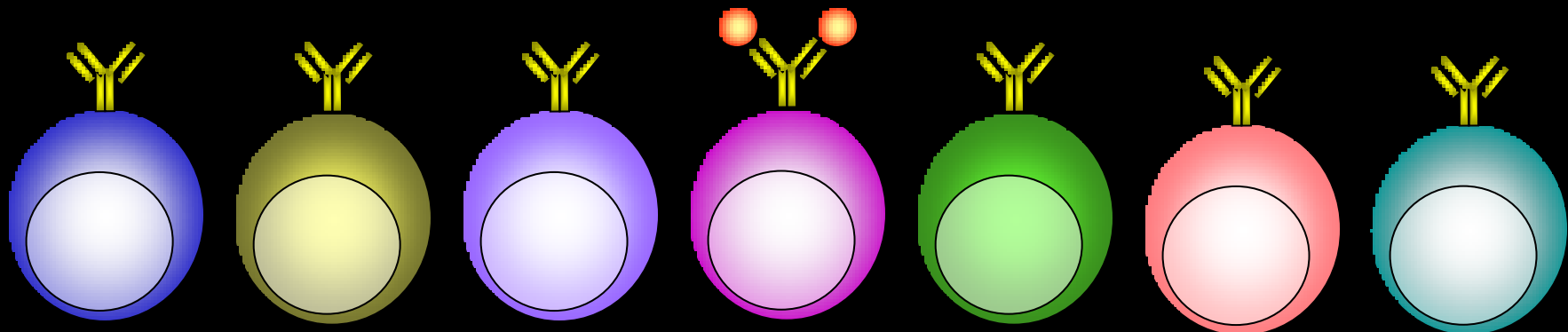
Th – B hücre ilişkisi (B hücre uyarımı)

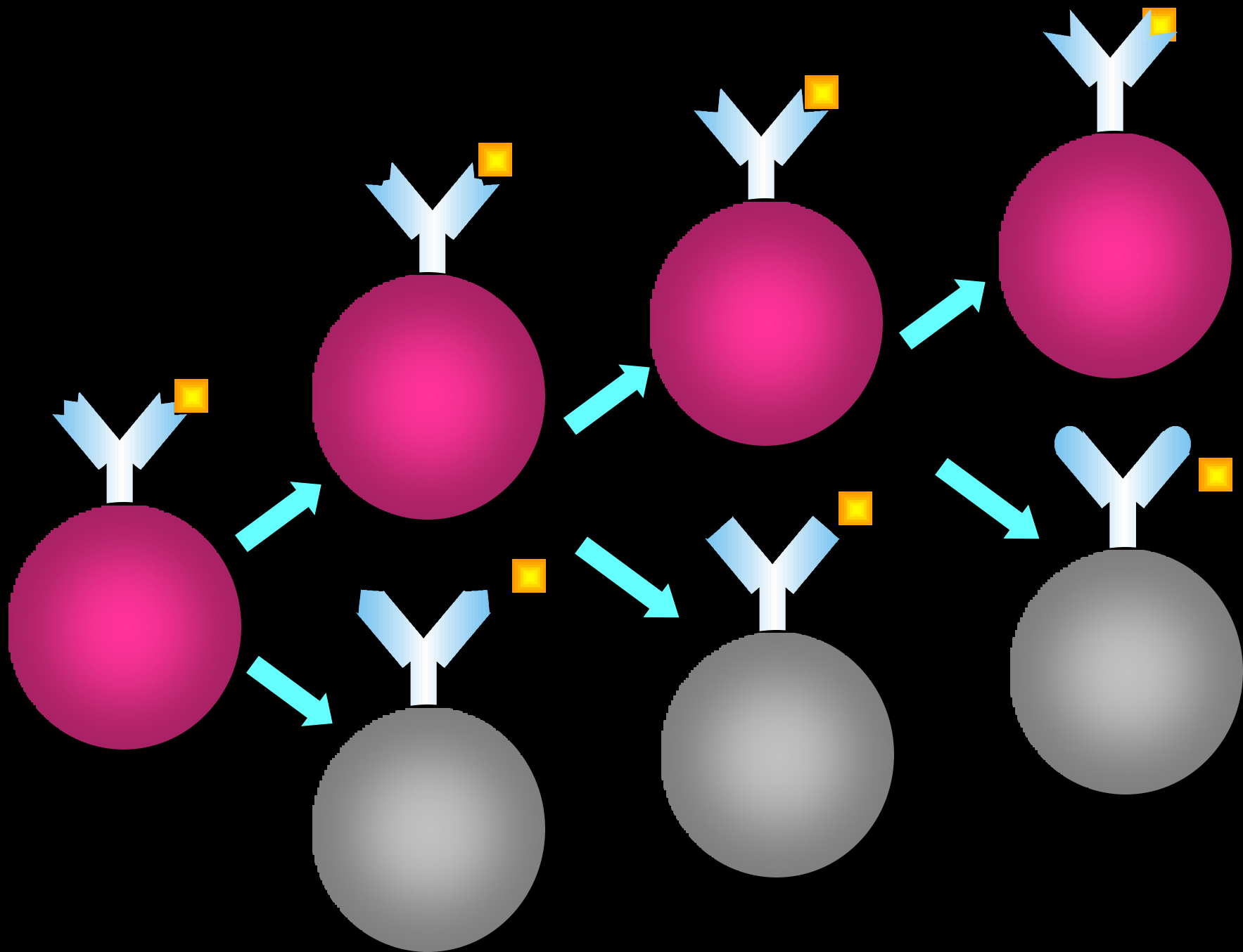
yardımcı T lenfosit

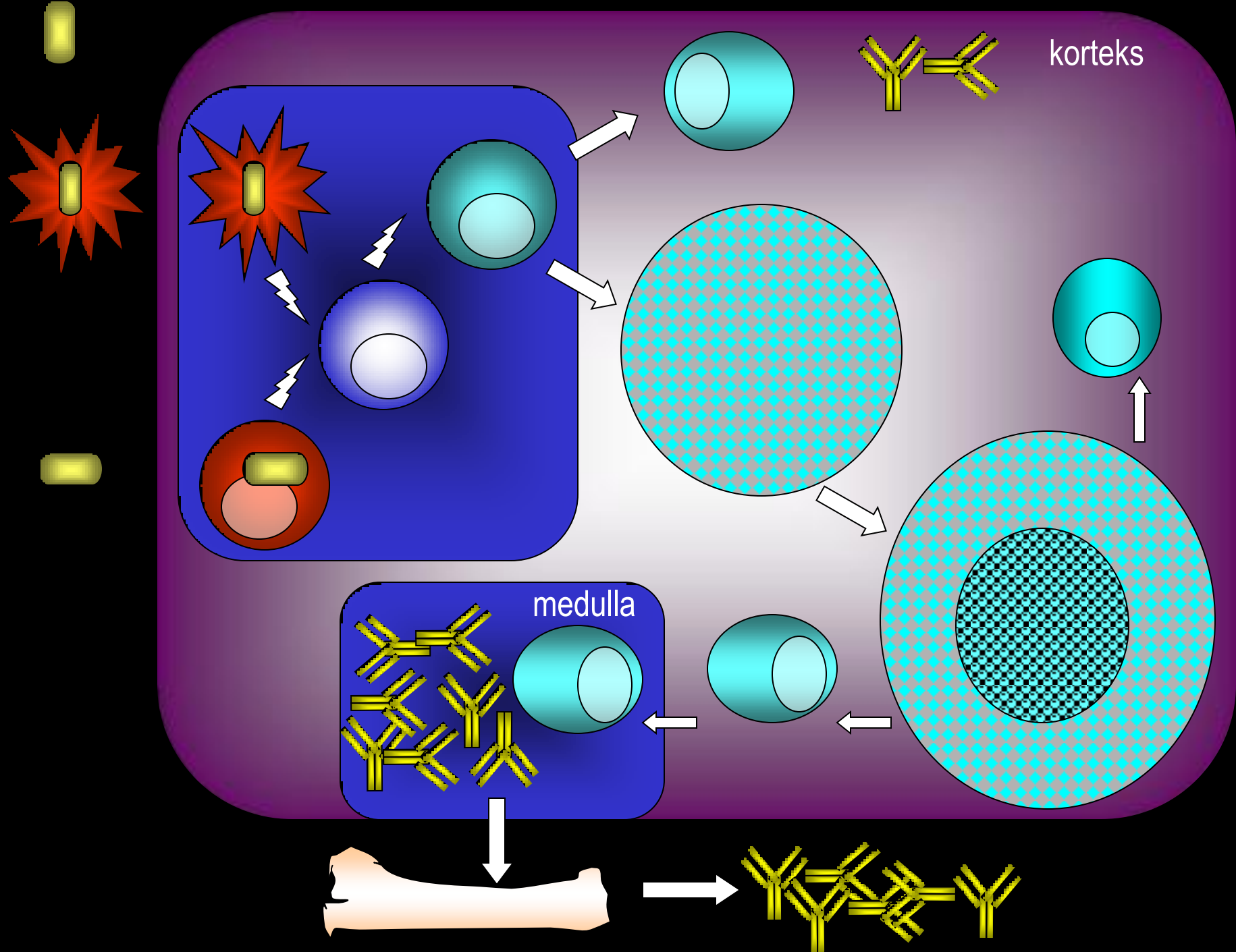




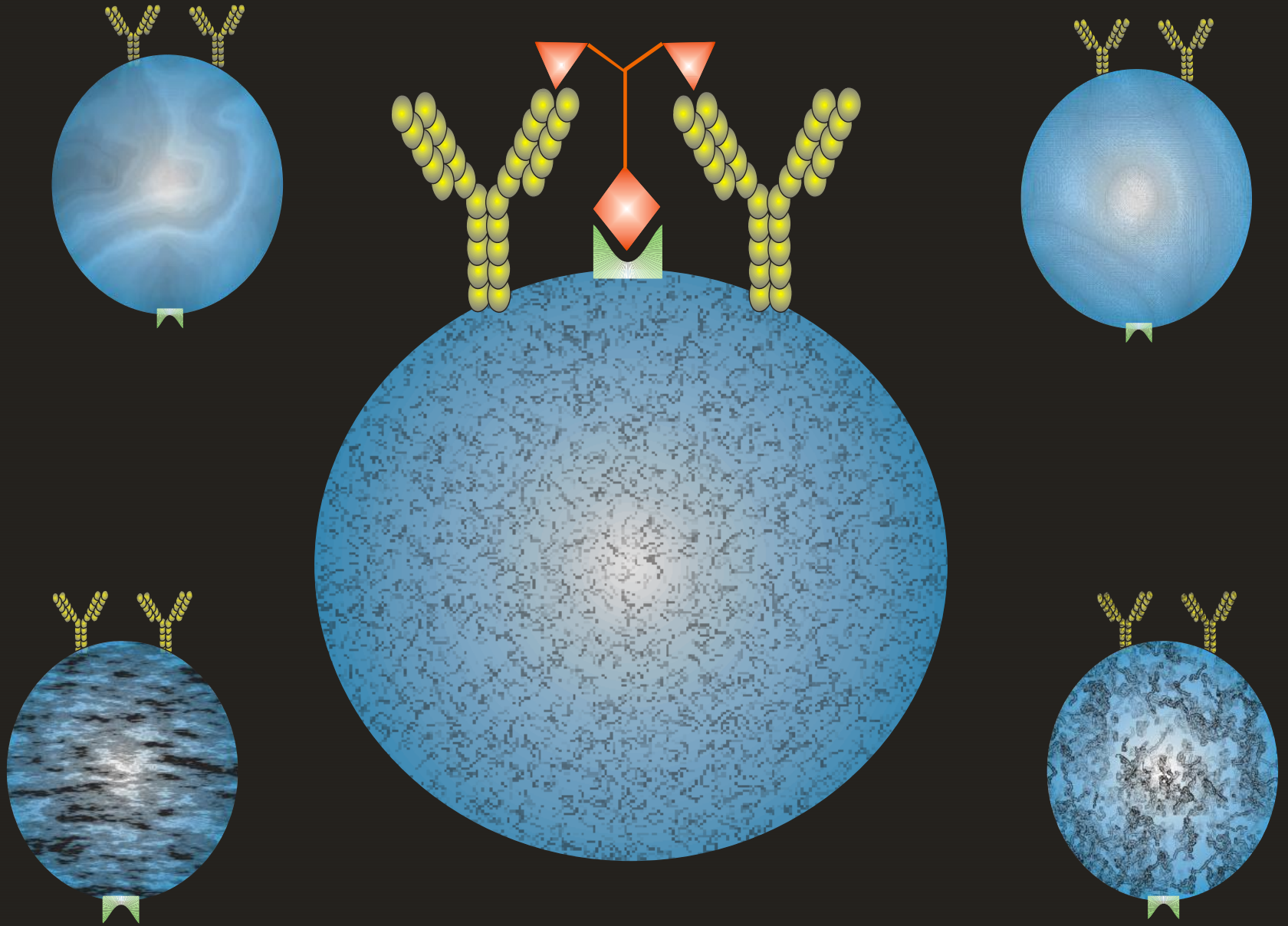






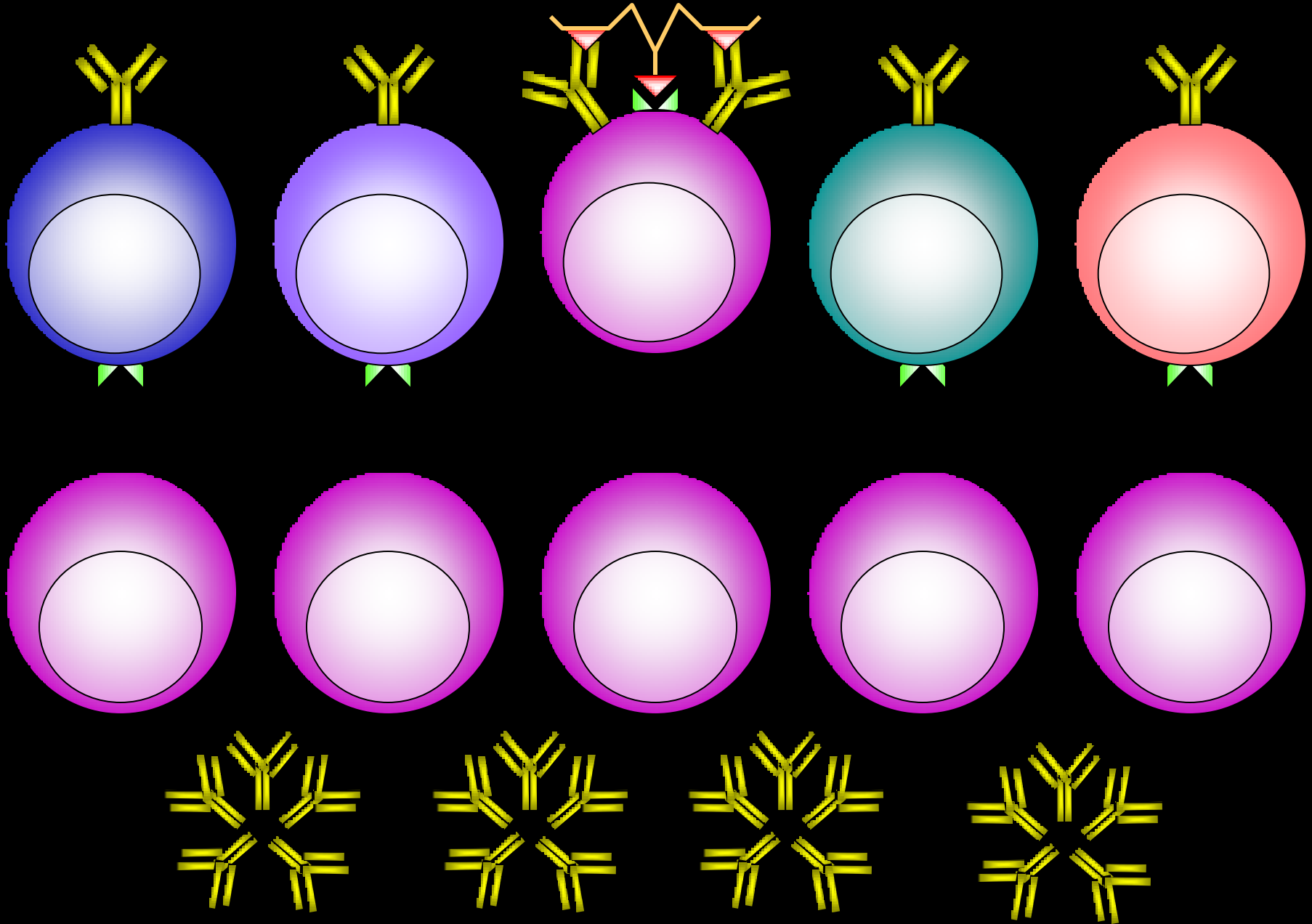


T bağımsız antijenlere karşı humoral immun yanıt

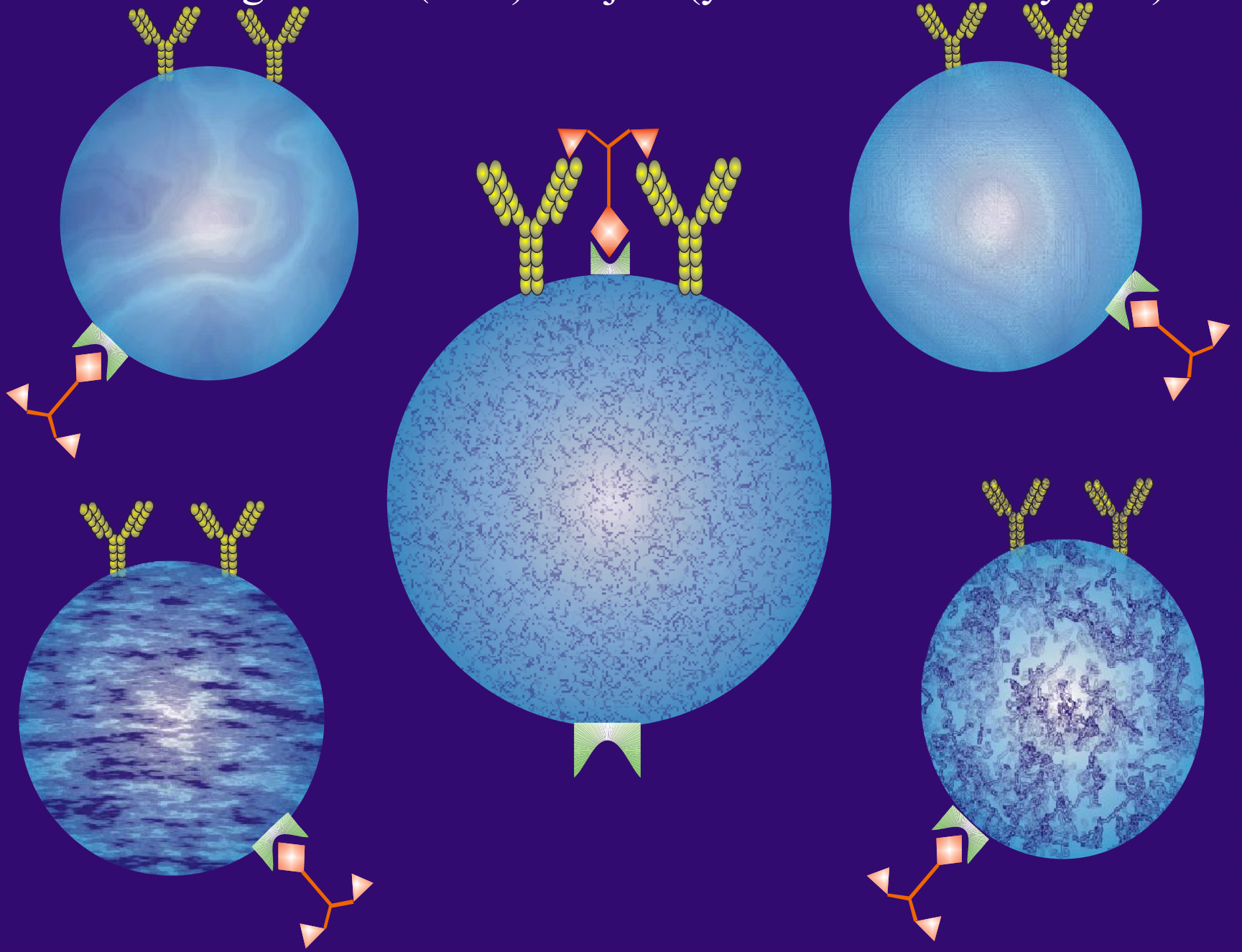


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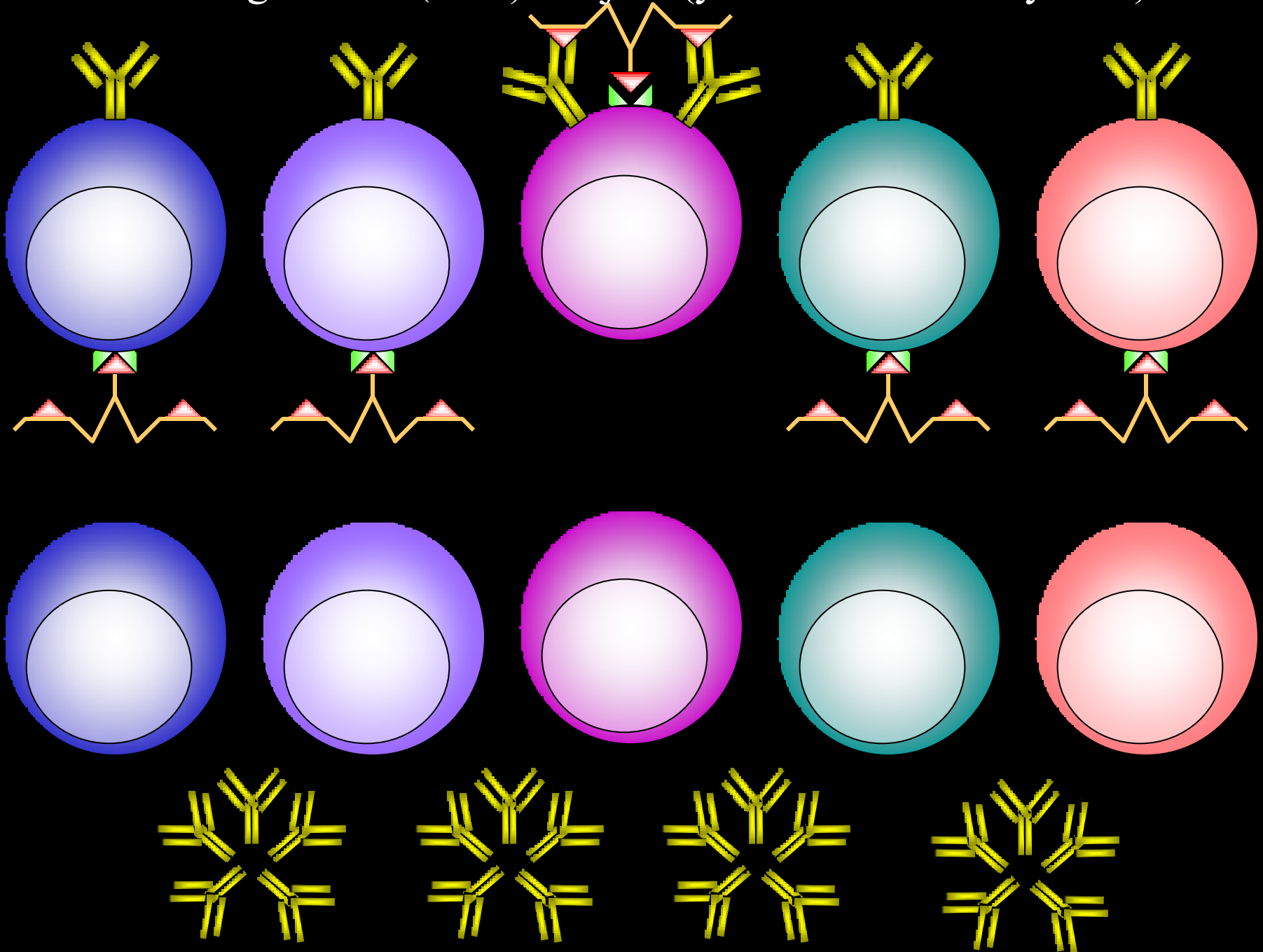
T bağımsız-1 (TI-1) antijen (düşük konsantrasyonda)



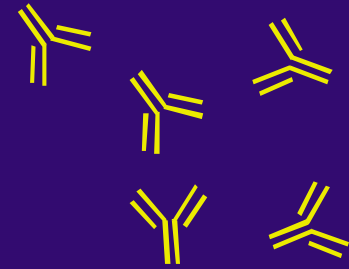
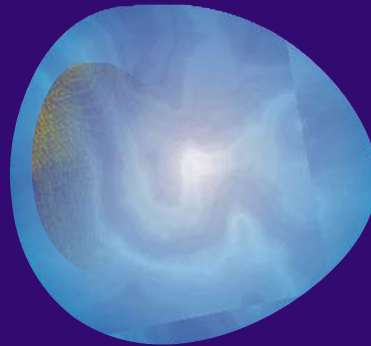
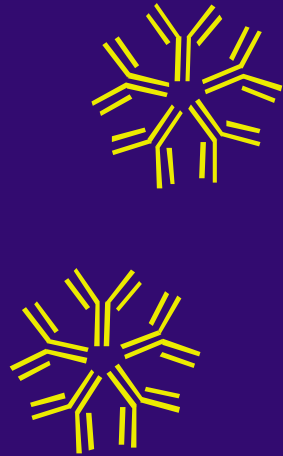
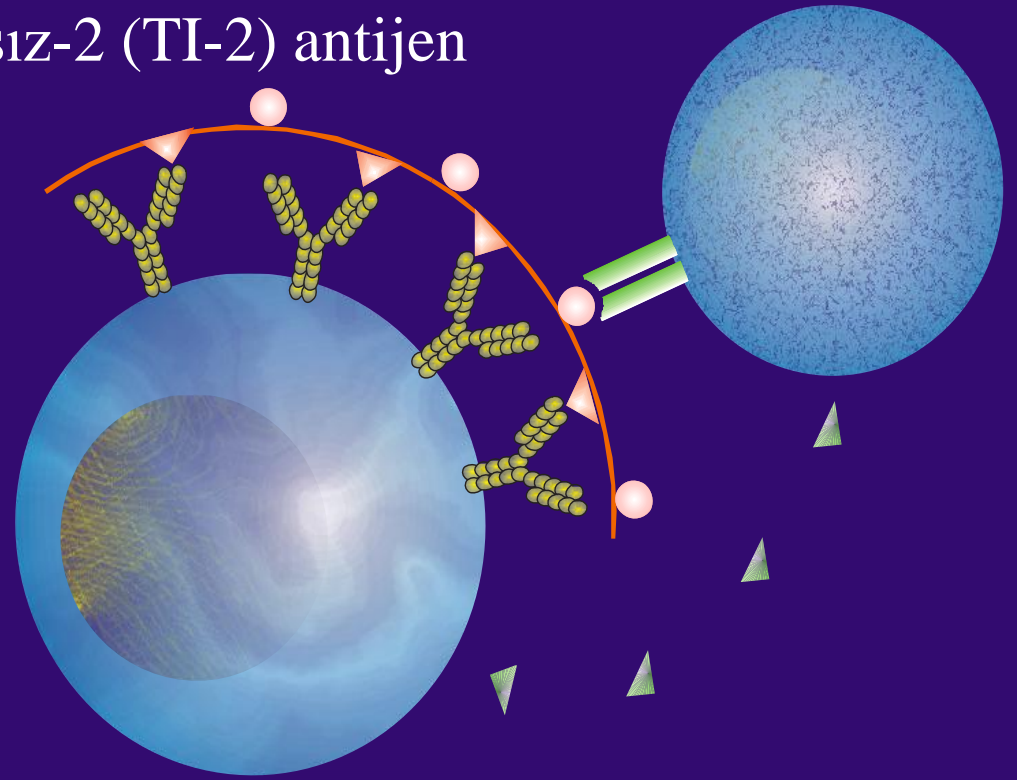
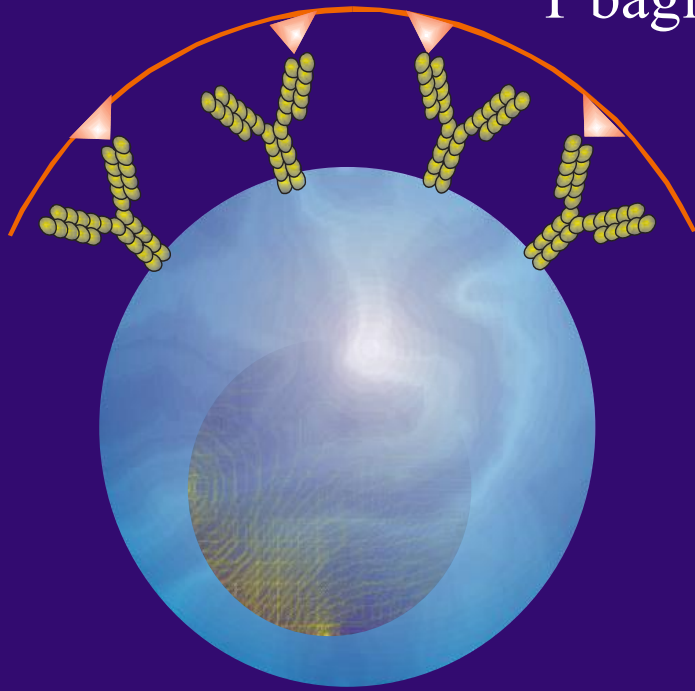
T bağımsız-1 (TI-1) antijen (yüksek konsantrasyonda)



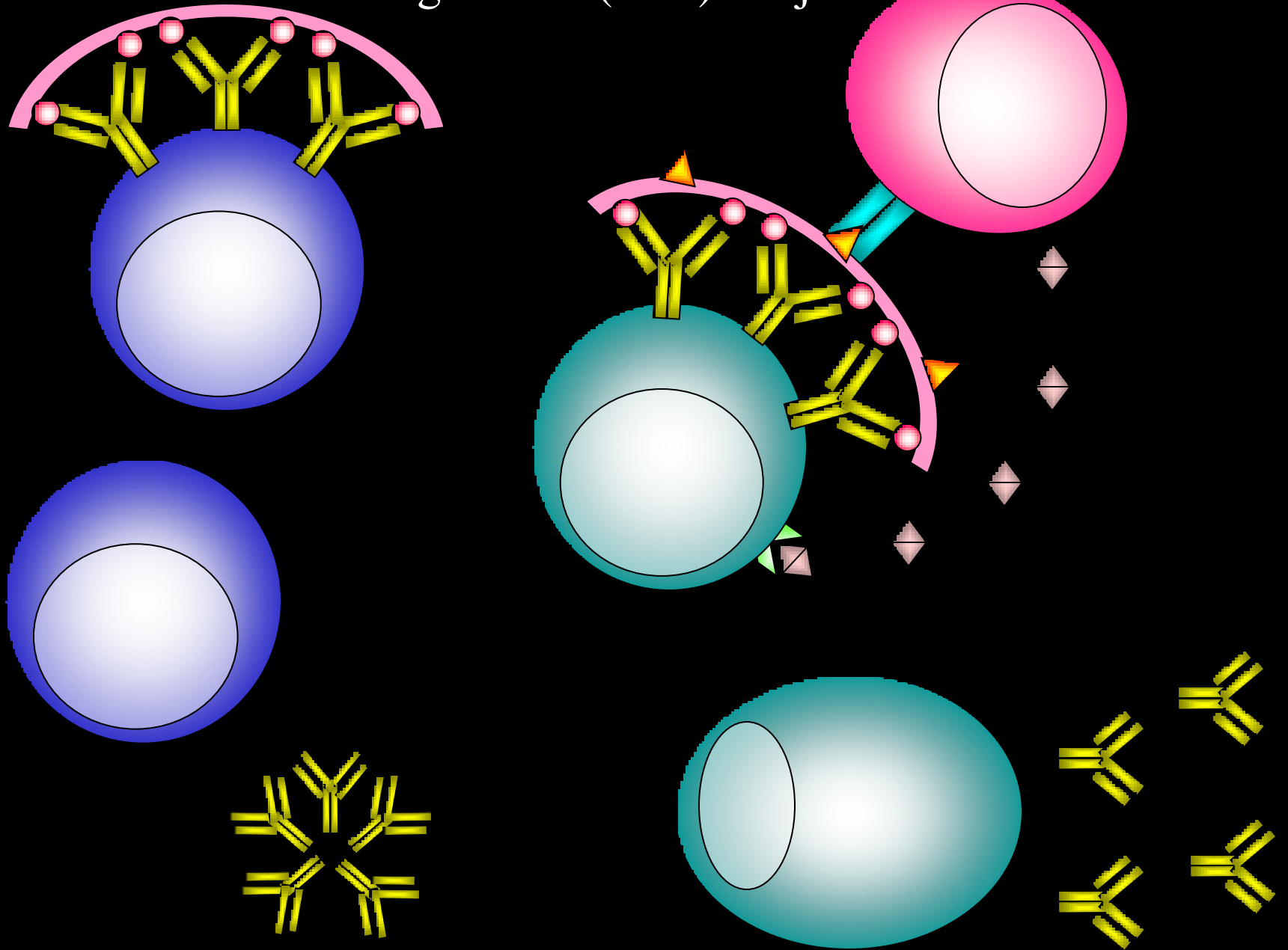
T bağımsız-1 (TI-1) antijen (yüksek konsantrasyonda)



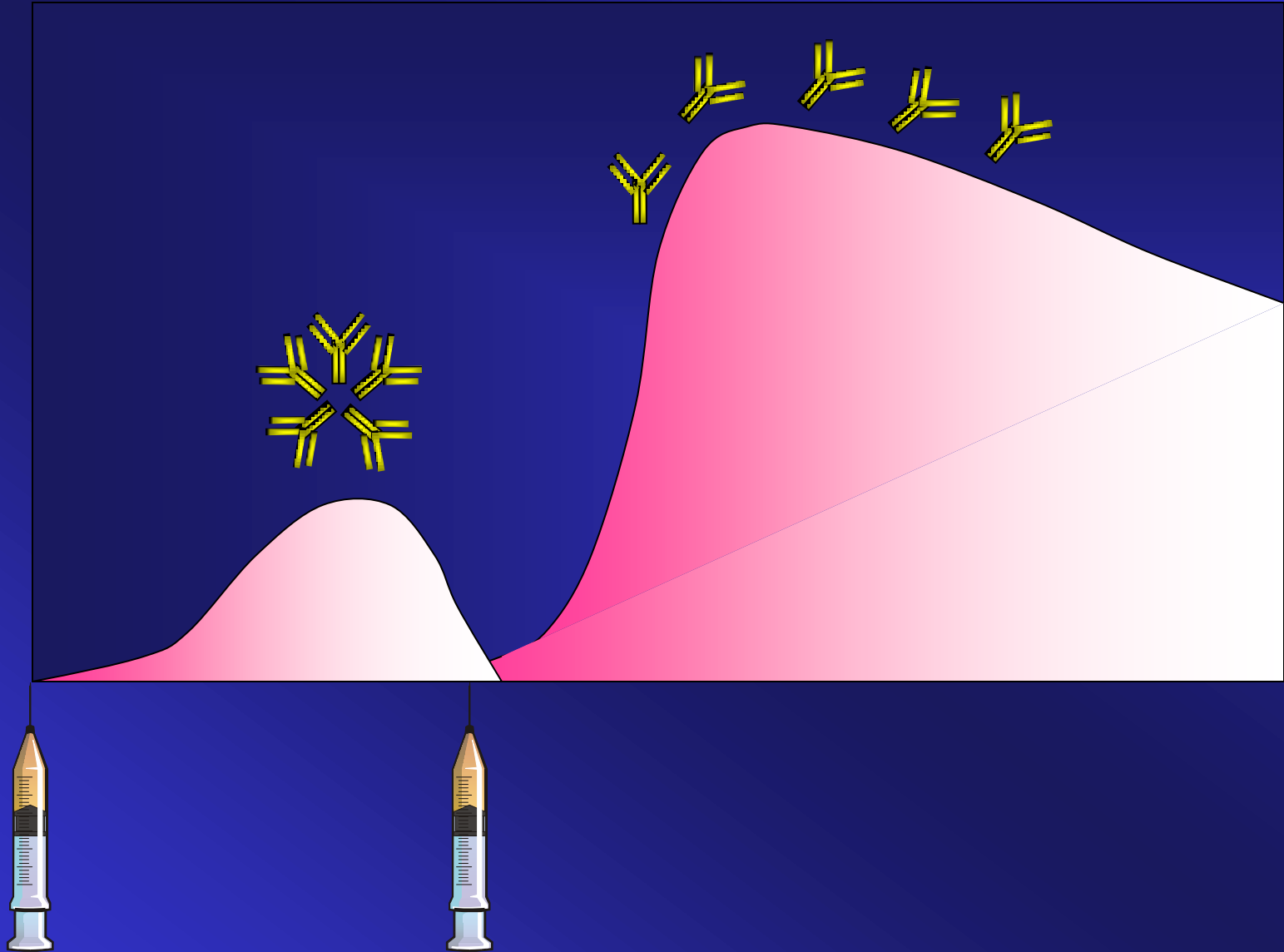
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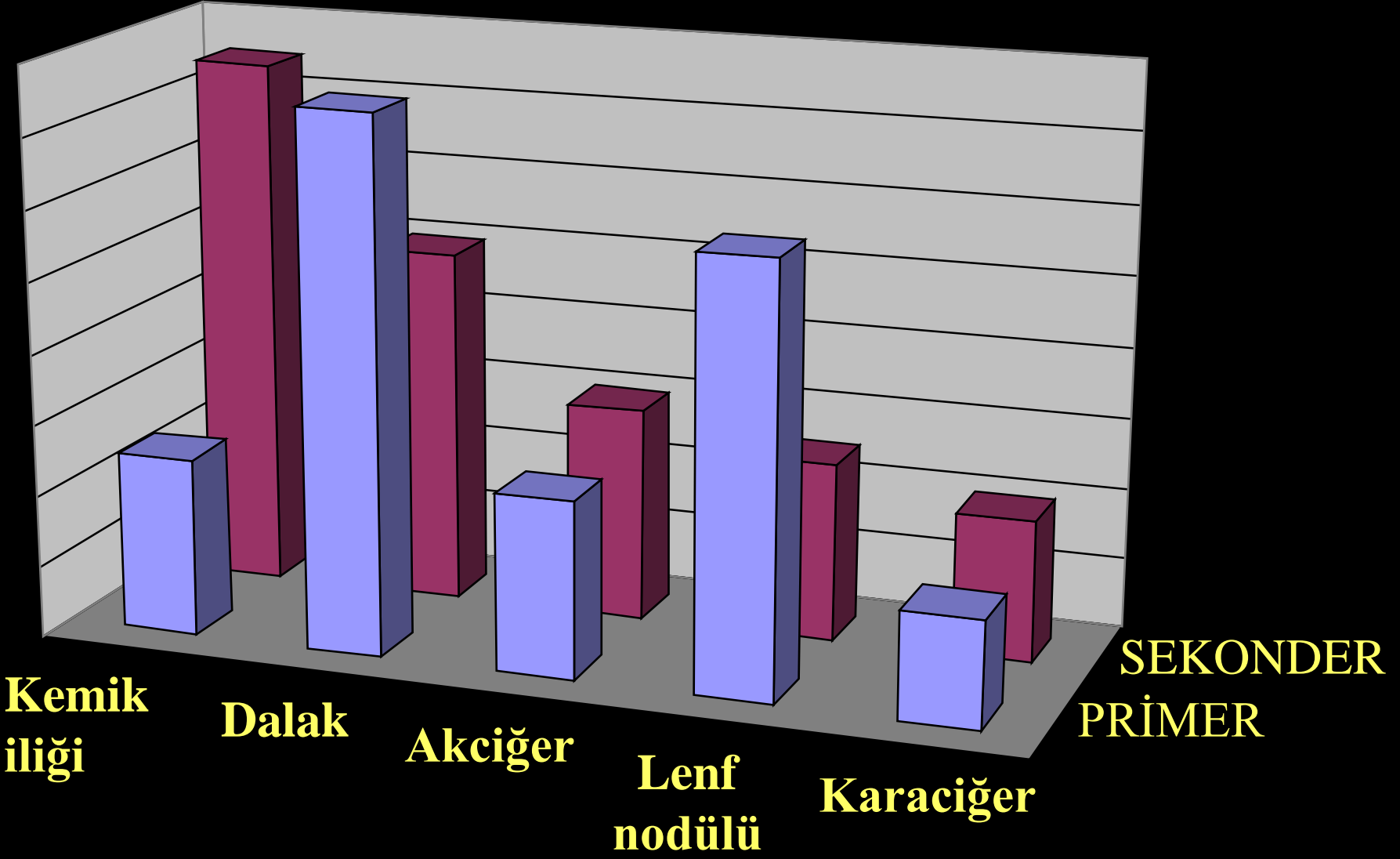


T bağımsız-1 (TI-1) antijen



Primer ve Sekonder İmmun Yanıt





Kemik iliđi

Dalak

Akciđer

Lenf nodülü

Karaciđer

**SEKONDER
PRİMER**

