Mecanismos fisiopatológicos do granuloma

Momtchilo Russo
Prof. Titular Sênior
ICB-USP
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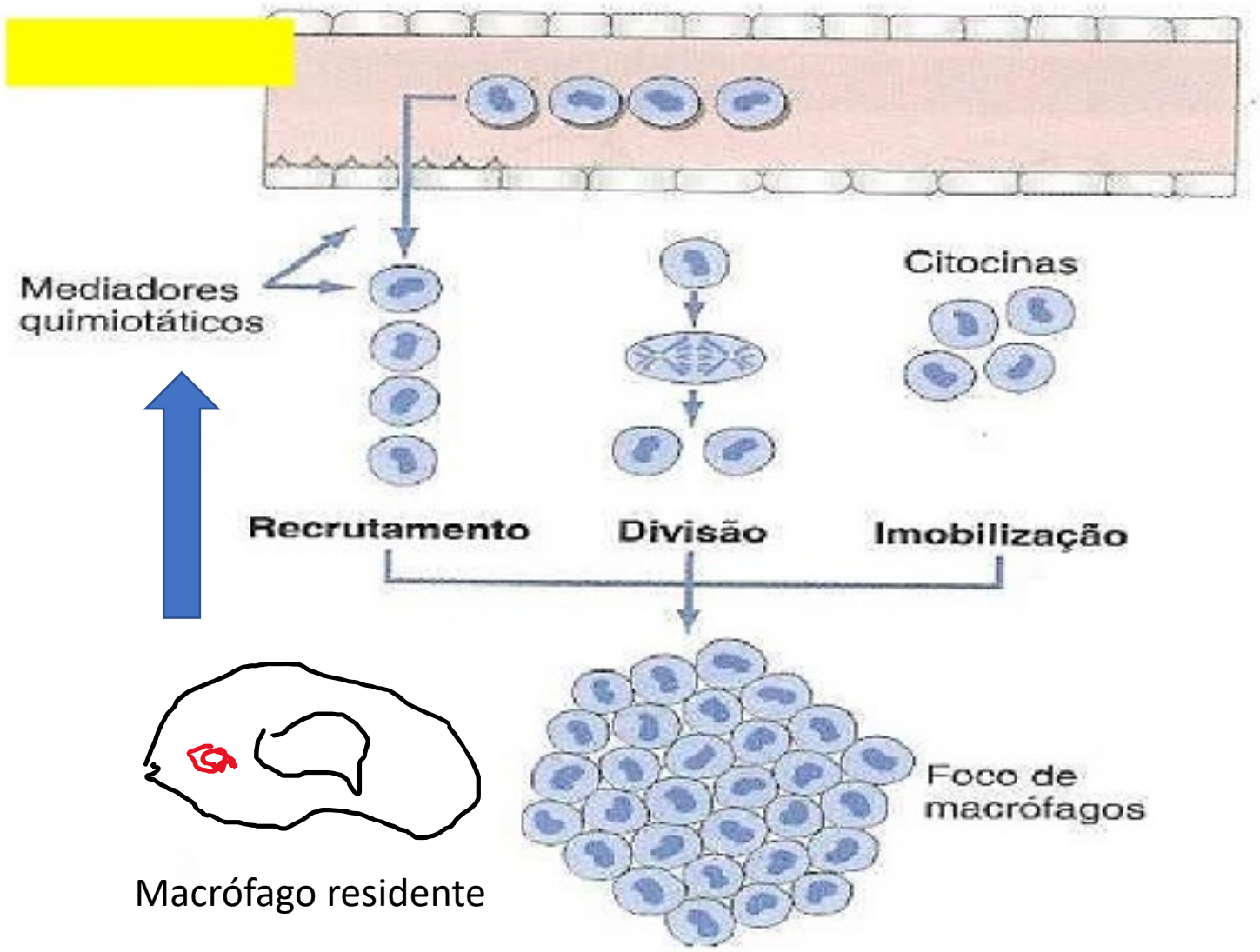
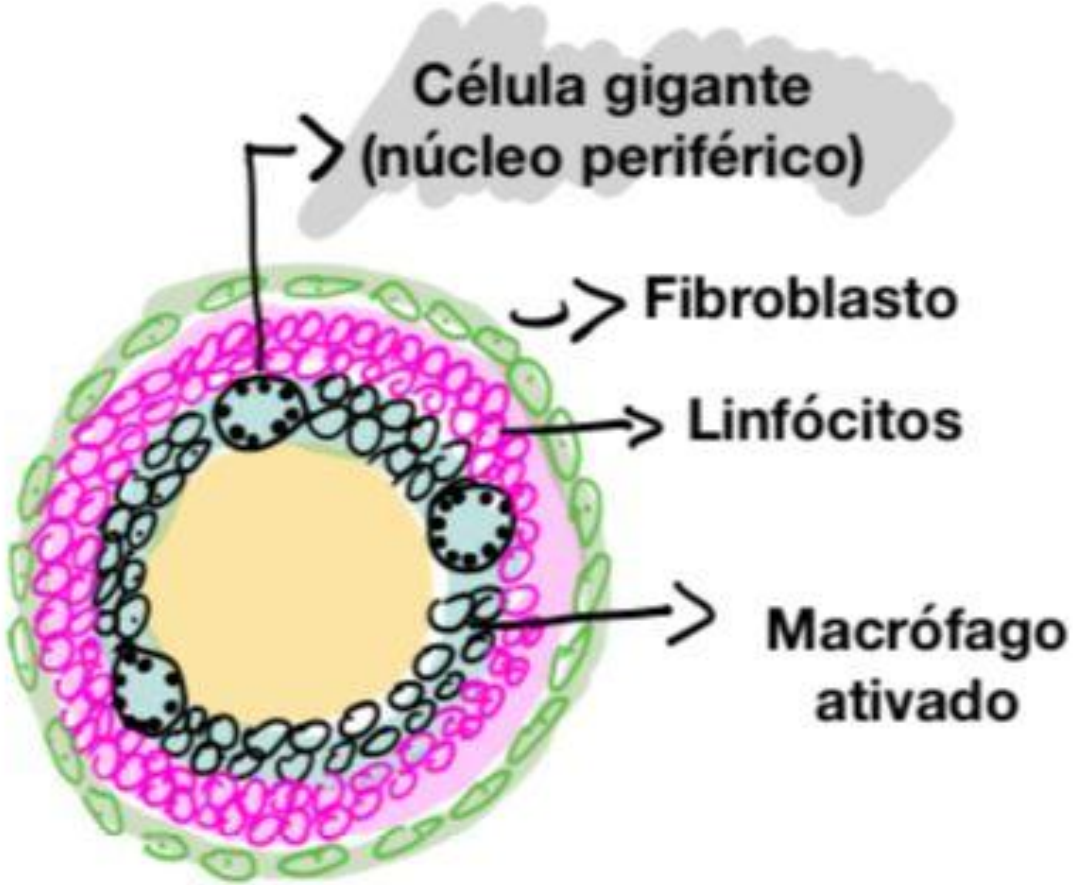
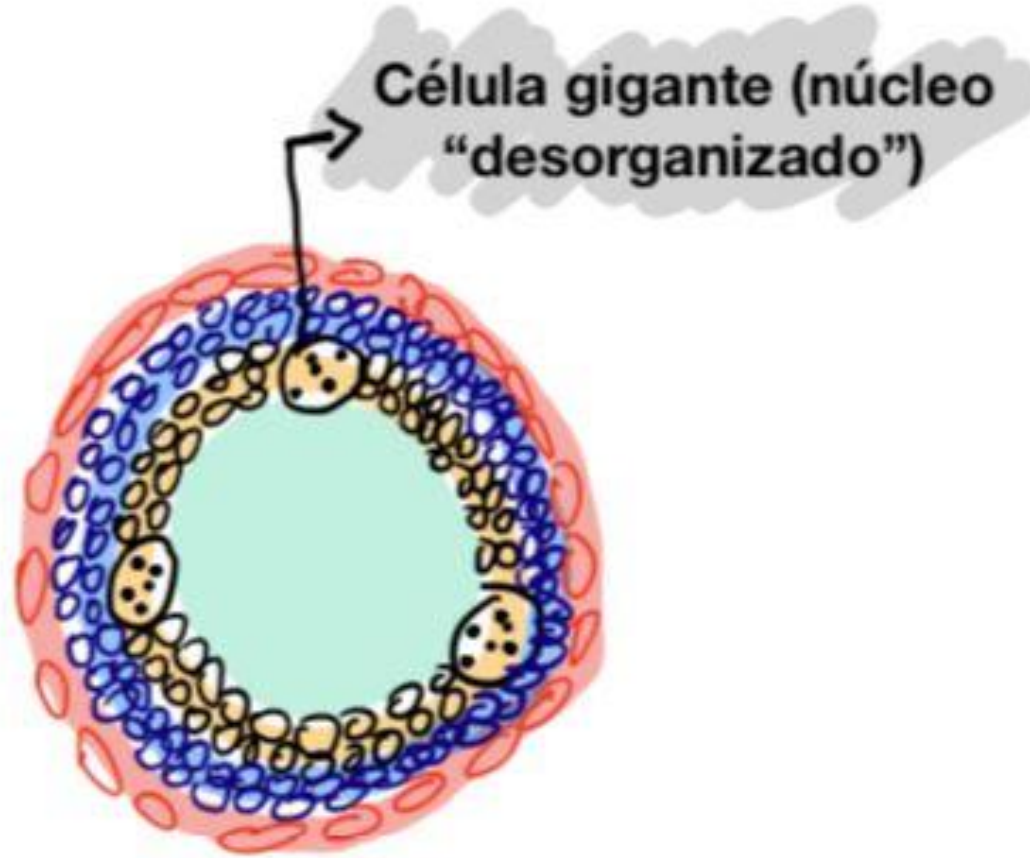


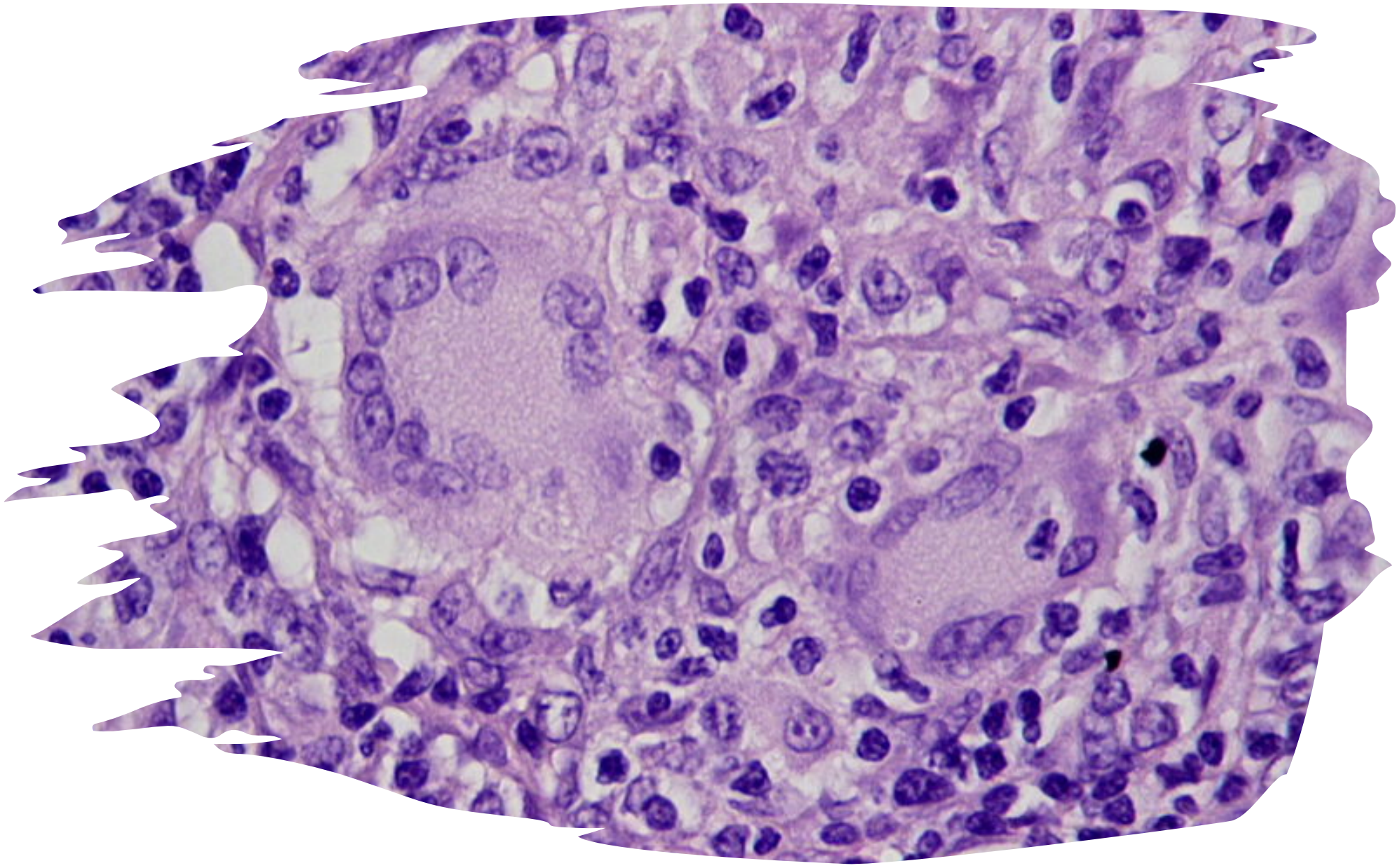
Macrófago residente

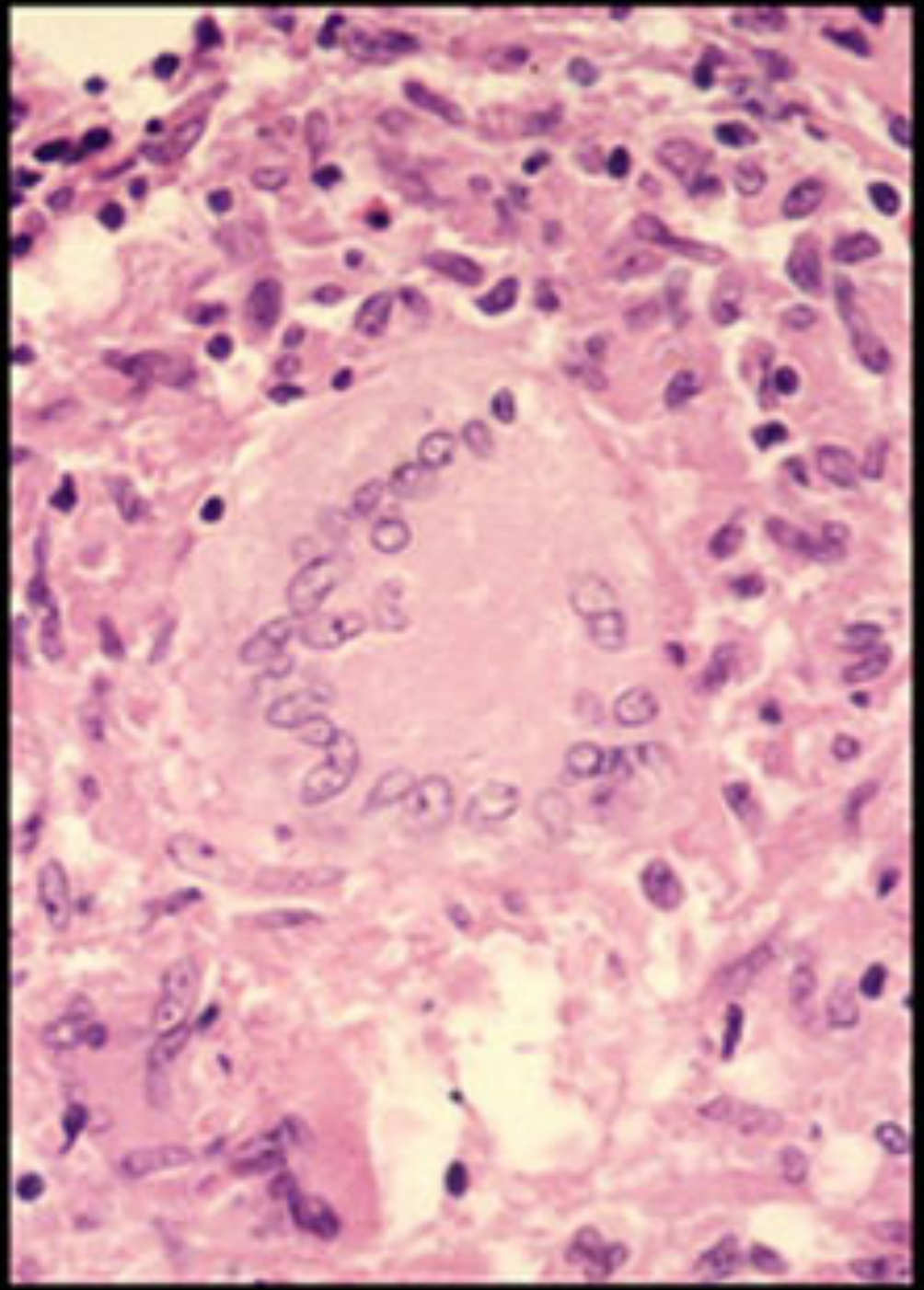


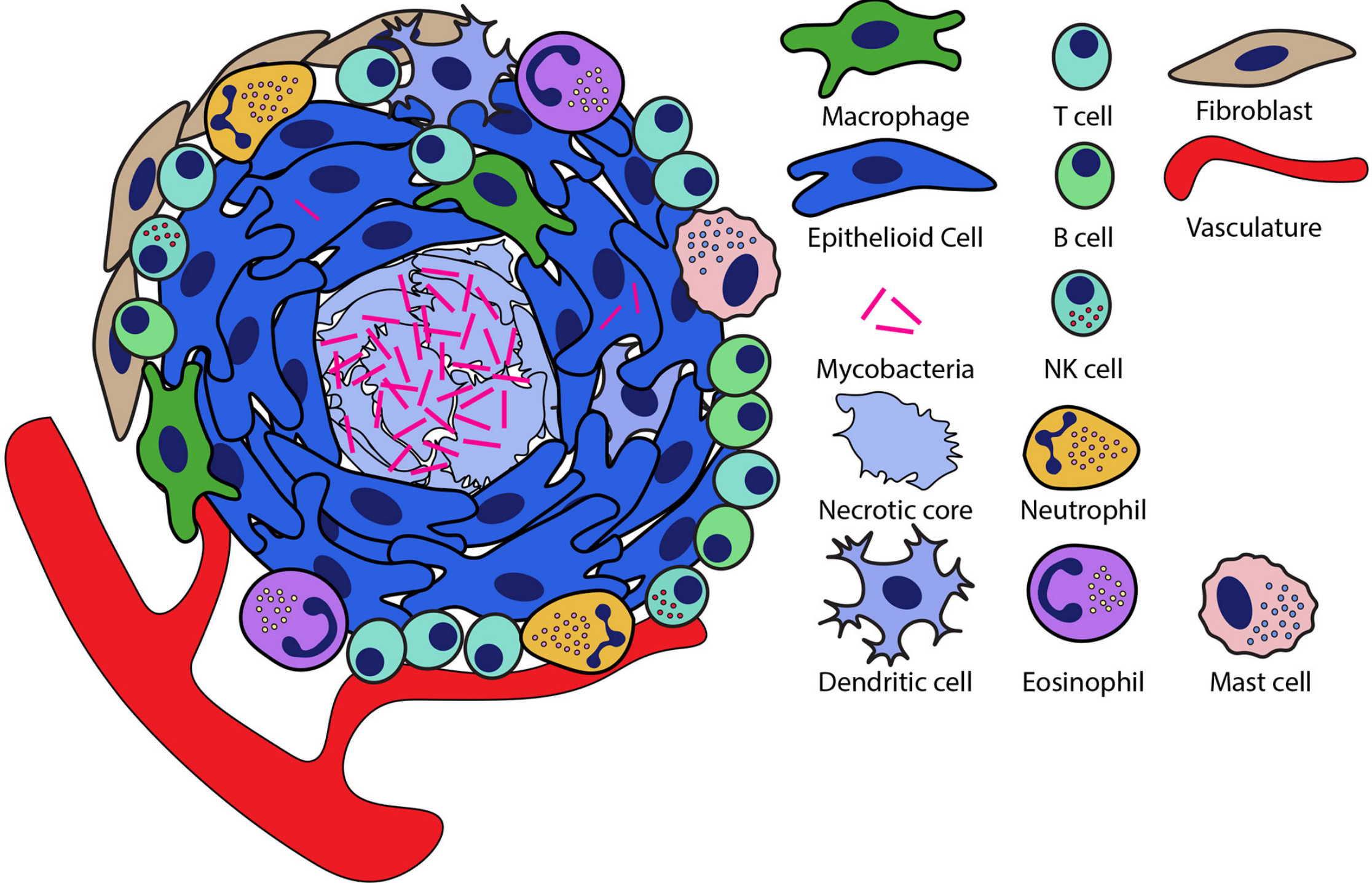
Granuloma imunitário

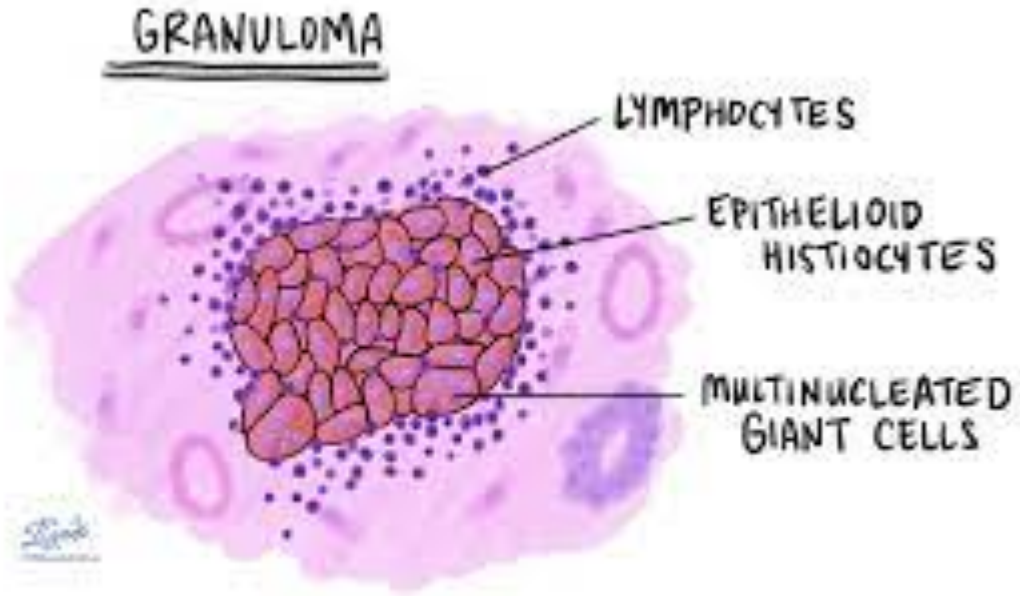


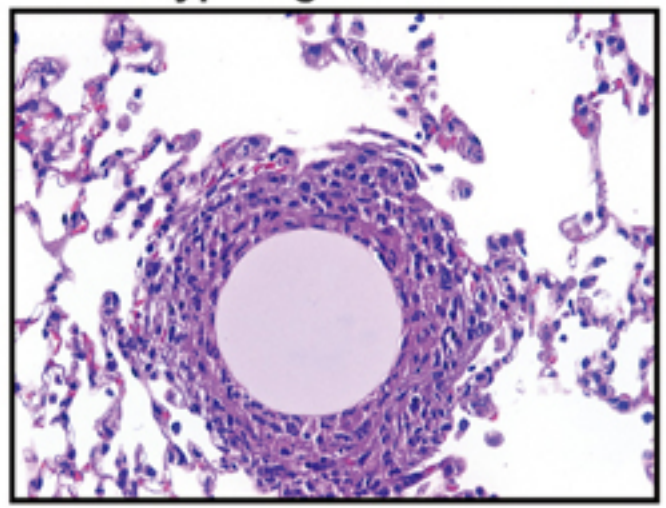
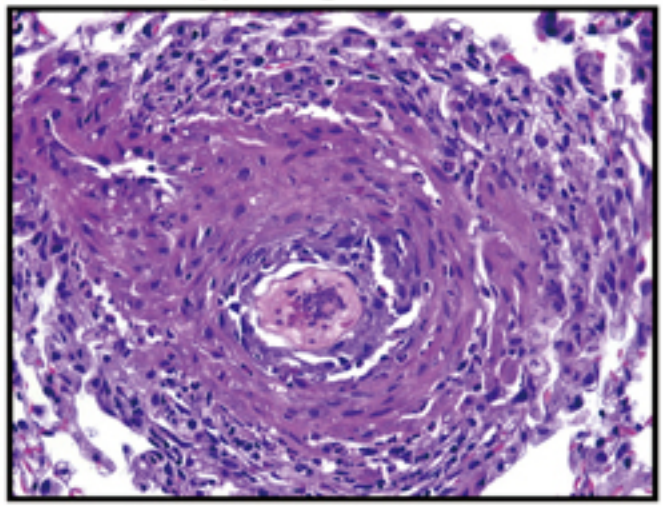
Granuloma de corpo estranho






Macrophage
T cell
Fibroblast
Epithelioid Cell
B cell
Vasculature
Mycobacteria
NK cell
Necrotic core
Neutrophil
Dendritic cell
Eosinophil
Mast cell


GRANULOMA
LYMPHOCYTES
EPITHELIOID
HISTIOCYTES
MULTINUCLEATED
GIANT CELLS

	Type 1 granuloma	Type 2 granuloma
		
Antigen	Mycobacterium	Schistosoma mansoni
Cytokine Profile (Th)	IFN-γ (Th1) ↑ ↑ ↑ IL-4/IL-5/IL-13 (Th2) ↑ IL-17 (Th17) ↑ ↑ ↑ ↑	IFN-γ ↑ IL-4/IL-5/IL-13 (Th2) ↑ ↑ ↑ ↑ IL-17 (Th17) ↑
Cell Population	mDC Macrophage Neutrophil Th1 cell Th17 cell	mDC Macrophage Eosinophil Fibroblast Th2 cell

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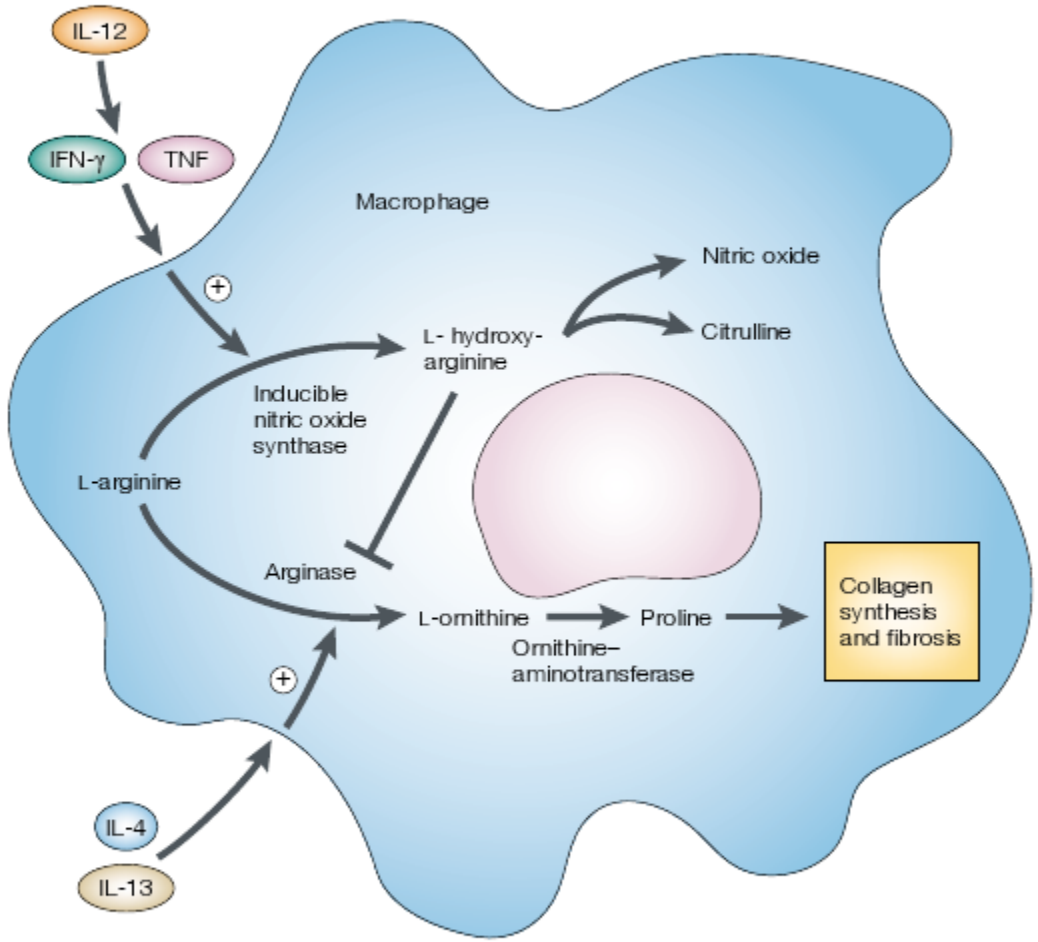

IL-12
IFN-γ
TNF
Macrophage
+
L- hydroxy-
arginine
Nitric oxide
Citrulline
Inducible
nitric oxide
synthase
L-arginine
Arginase
L-ornithine
Proline
Ornithine–
aminotransferase
Collagen
synthesis
and fibrosis
+
IL-4
IL-13

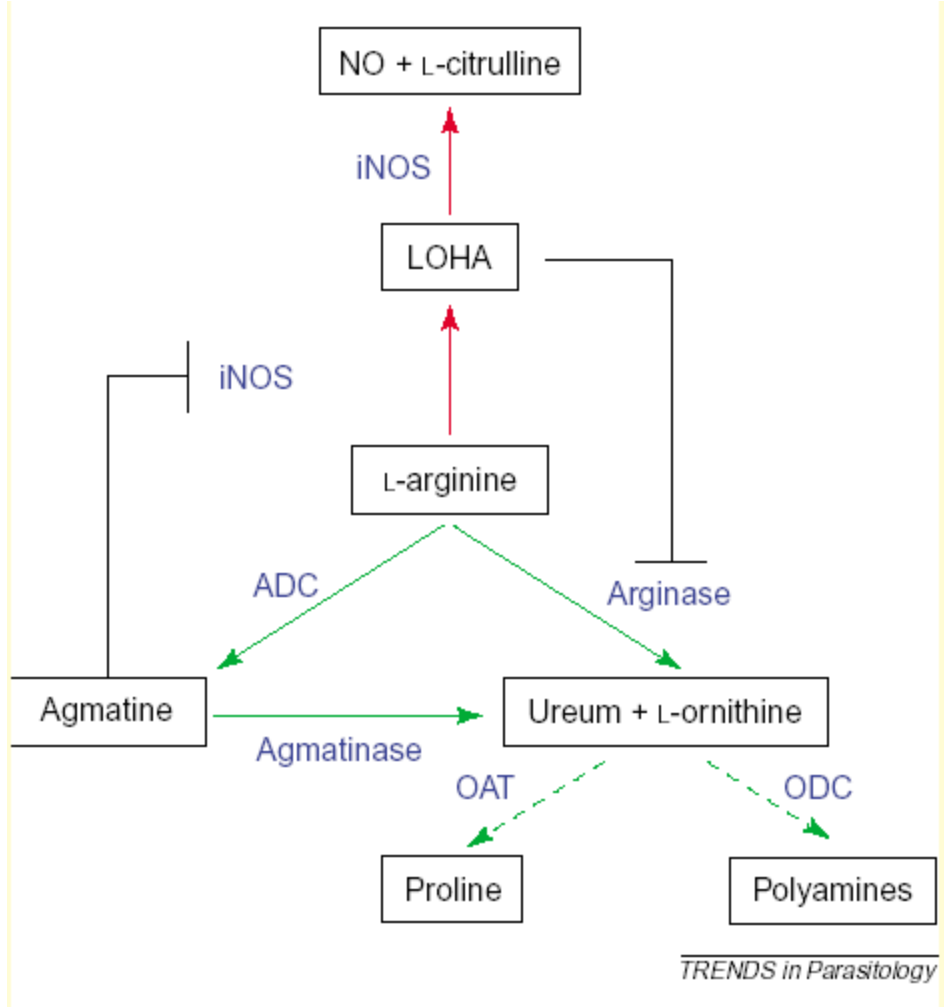
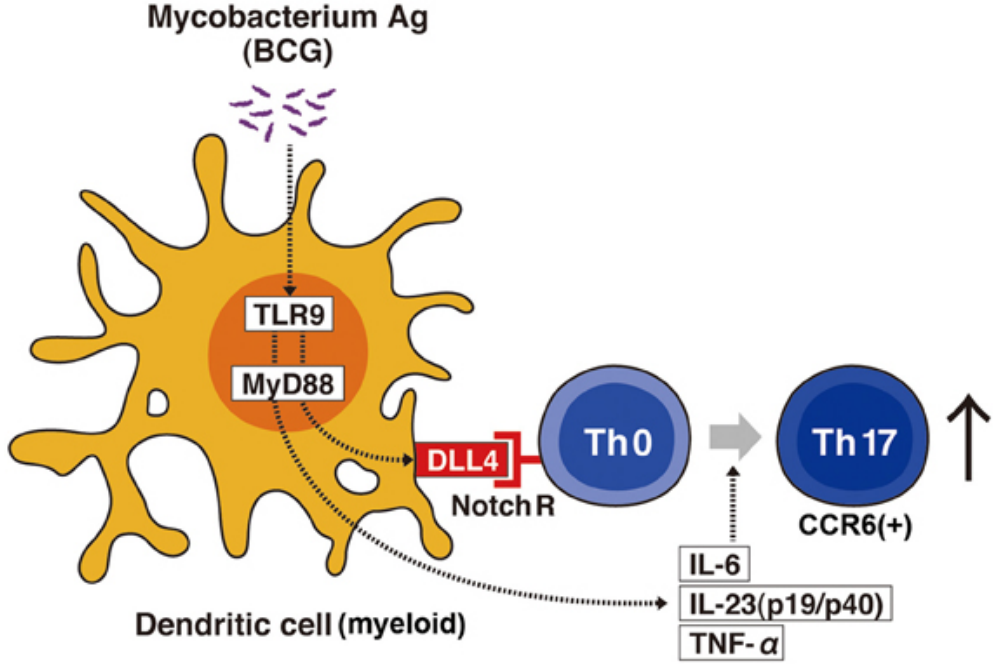
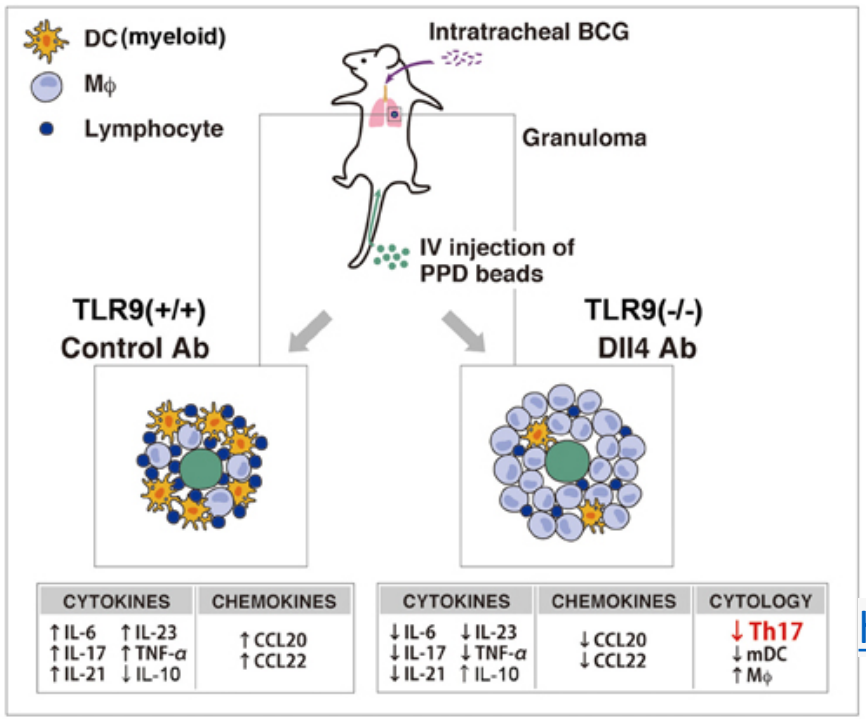


Figure I. L-arginine metabolism in macrophages. Key: broken arrows, hypothetical pathway; green arrows, pathway induced by IL-4 and/or IL-13; red arrows, pathway induced by IFN-γ and/or TNF-α. Abbreviations: ADC, arginine decarboxylase; iNOS, inducible NO synthase; IFN, interferon; IL, interleukin; LOHA, L-hydroxy-arginine; NO, nitric oxide; OAT, ornithine amino-transferase; ODC, ornithine decarboxylase; TNF, tumour necrosis factor.





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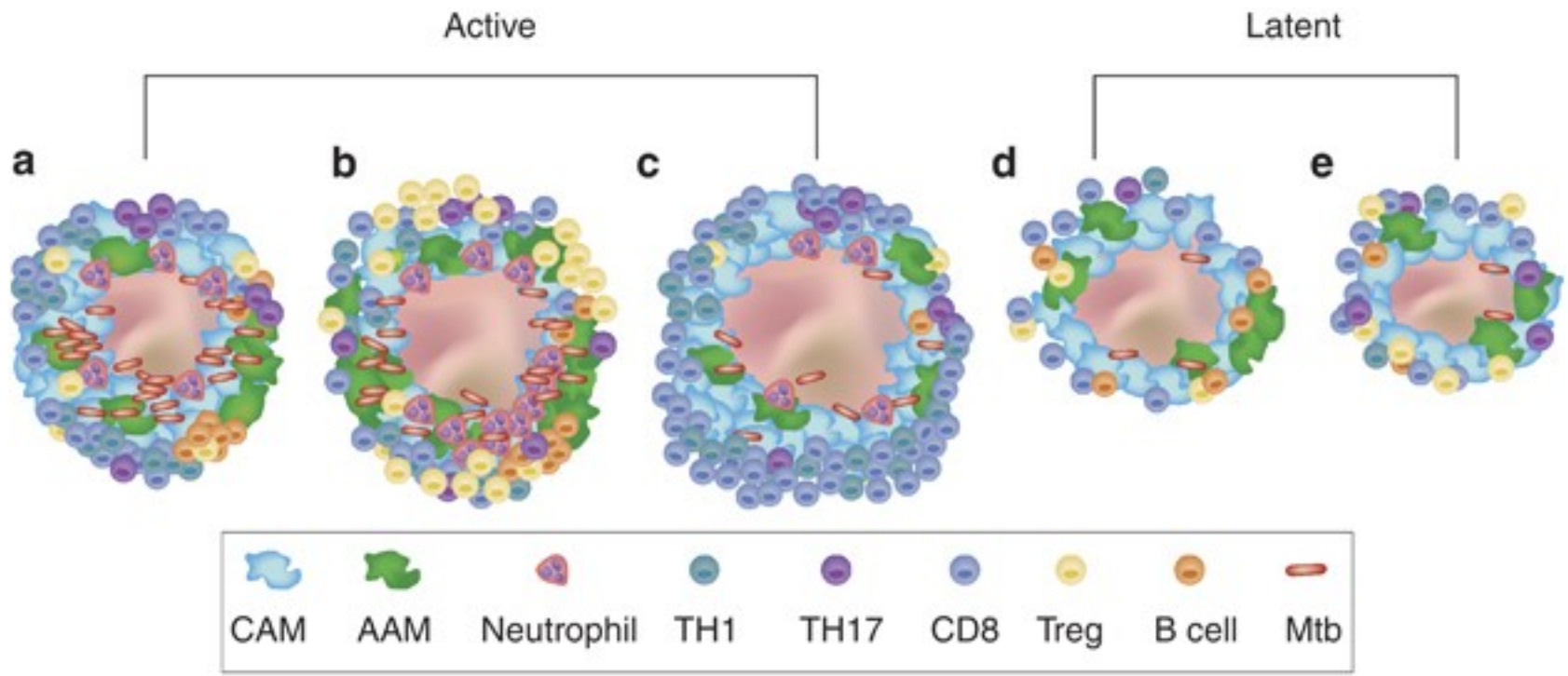
Active
Latent
a
b
c
d
e
CAM
AAM
Neutrophil
TH1
TH17
CD8
Treg
B cell
Mtb