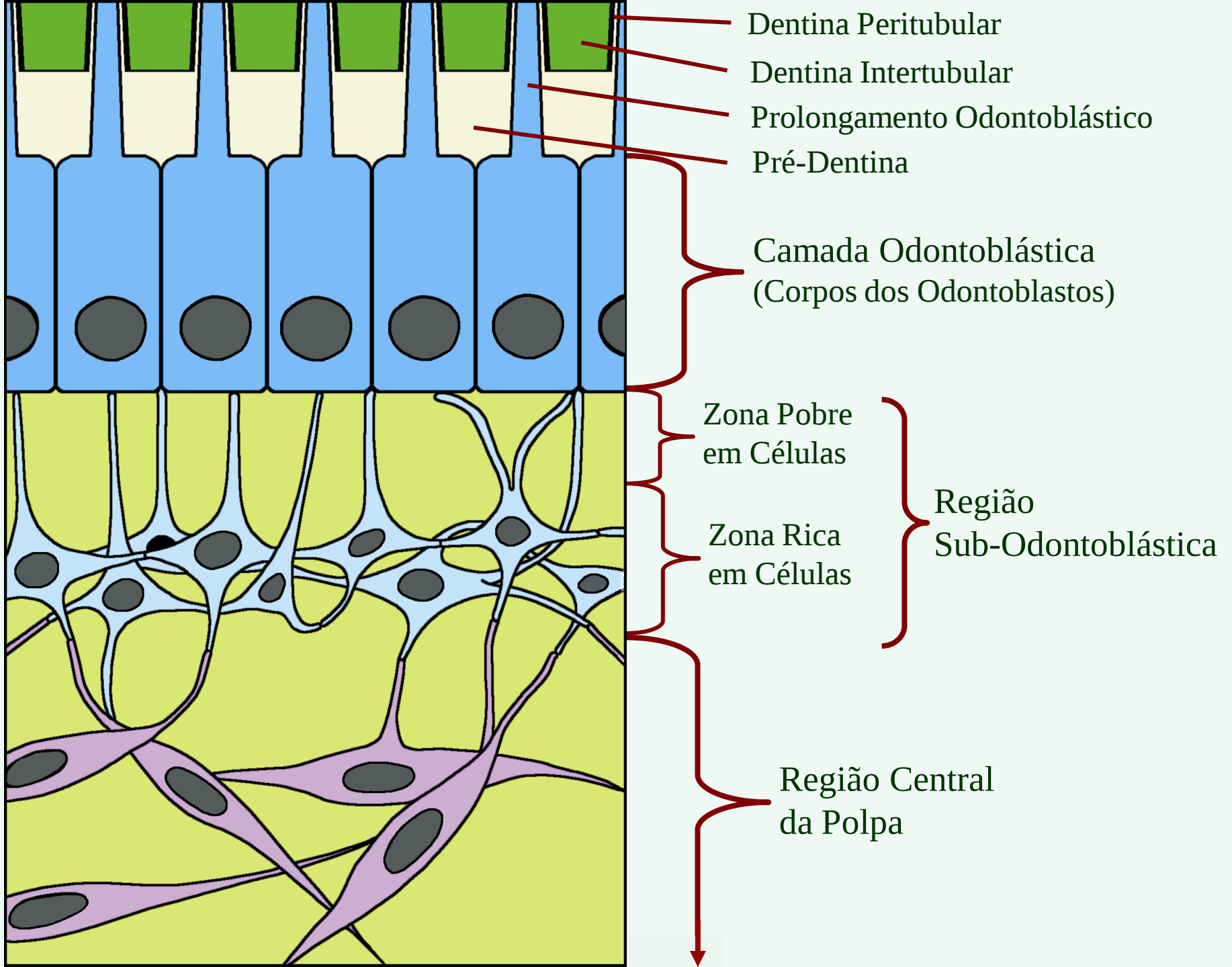
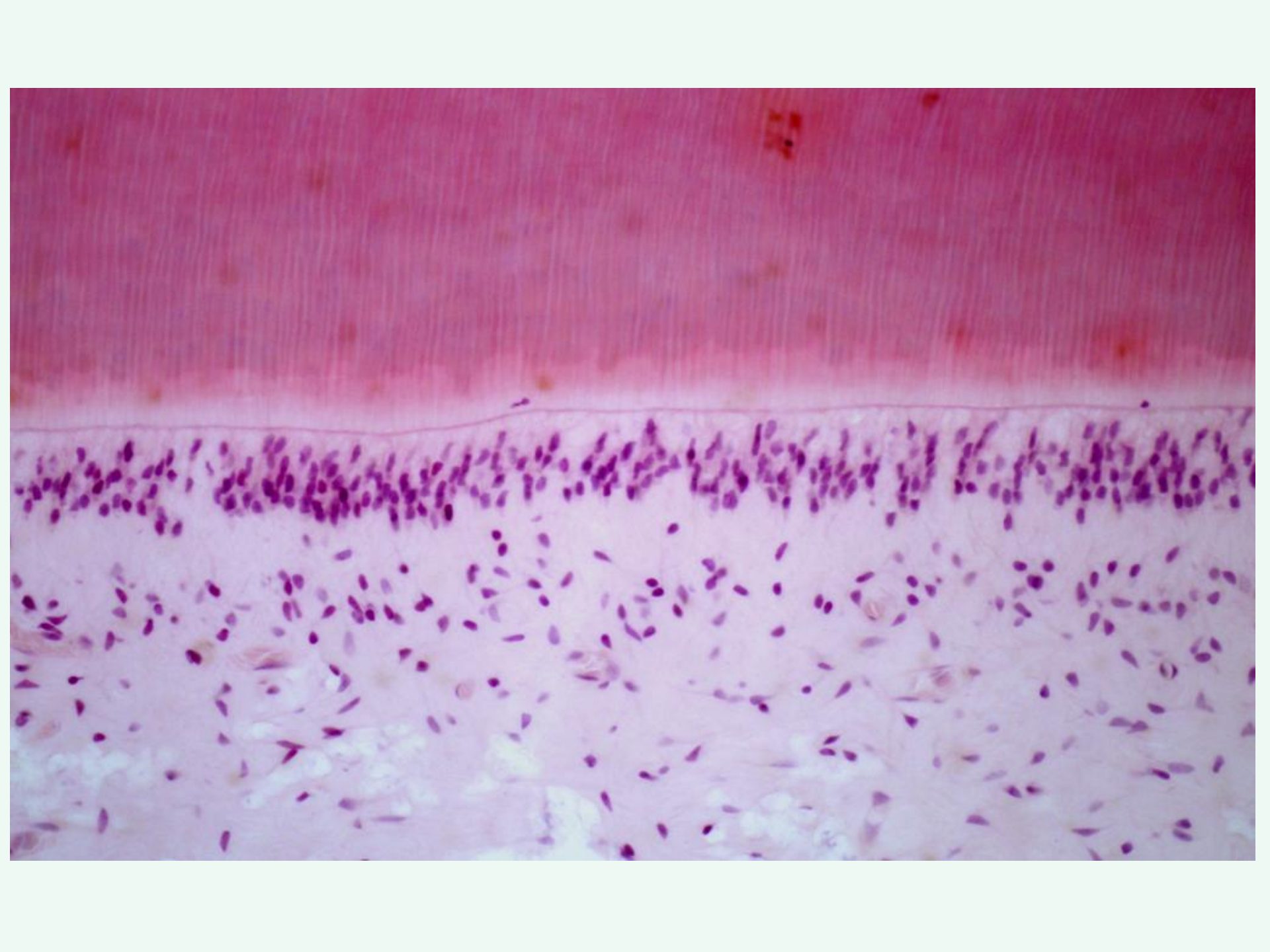




Bioquímica da Polpa e Periodonto

Prof. Dr. Victor Arana
Departamento de Biomateriais e Biologia Oral



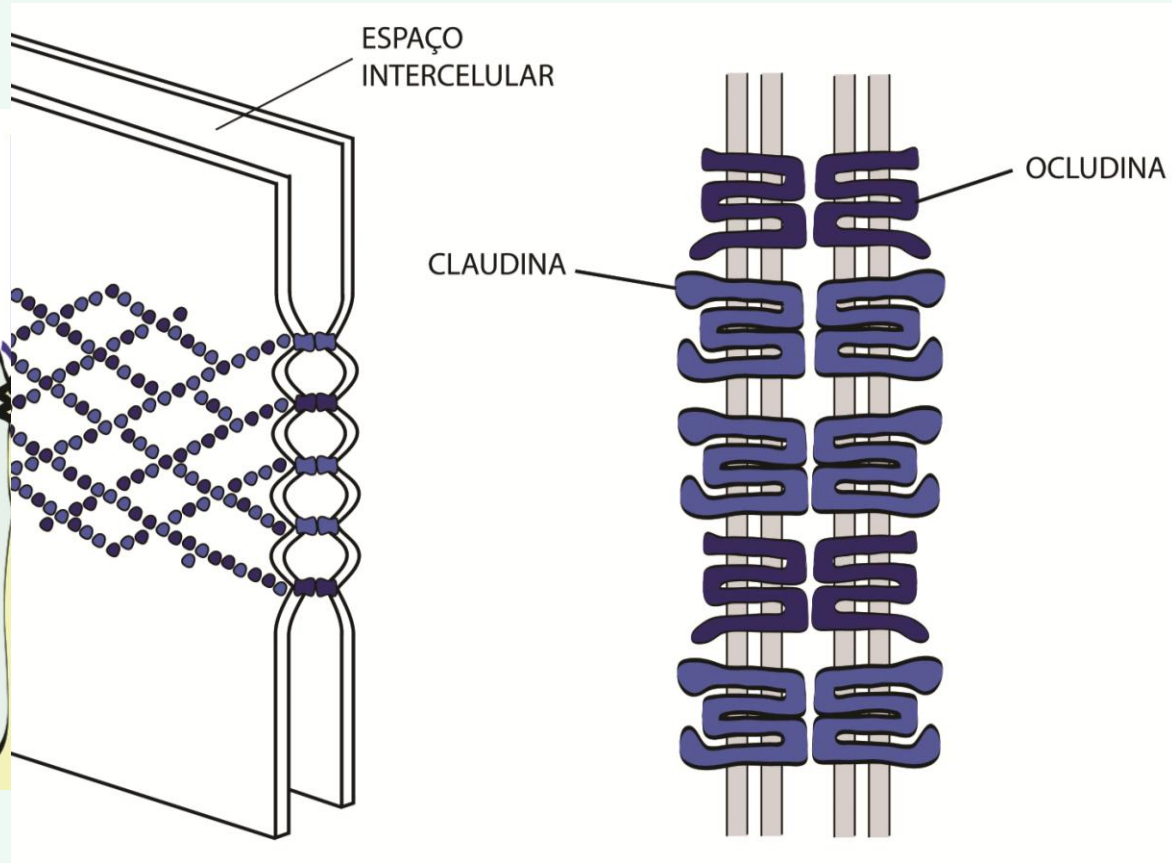
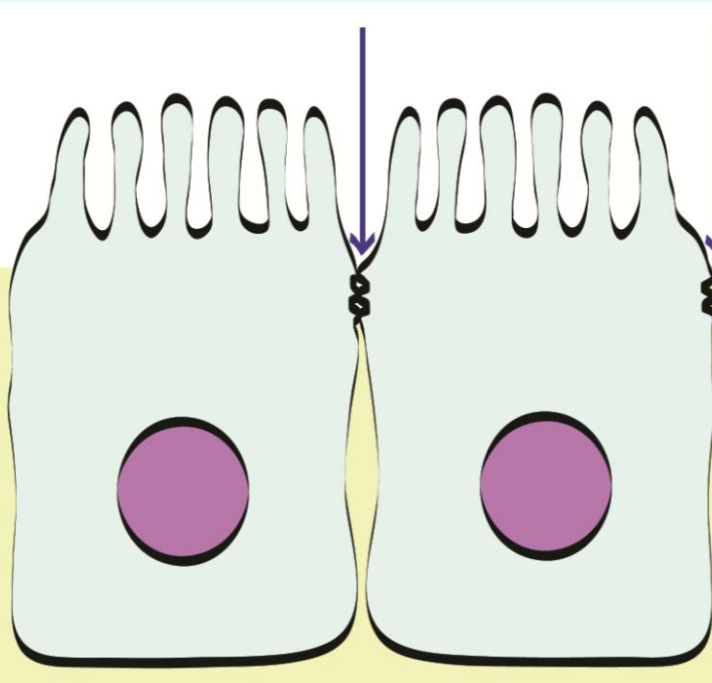


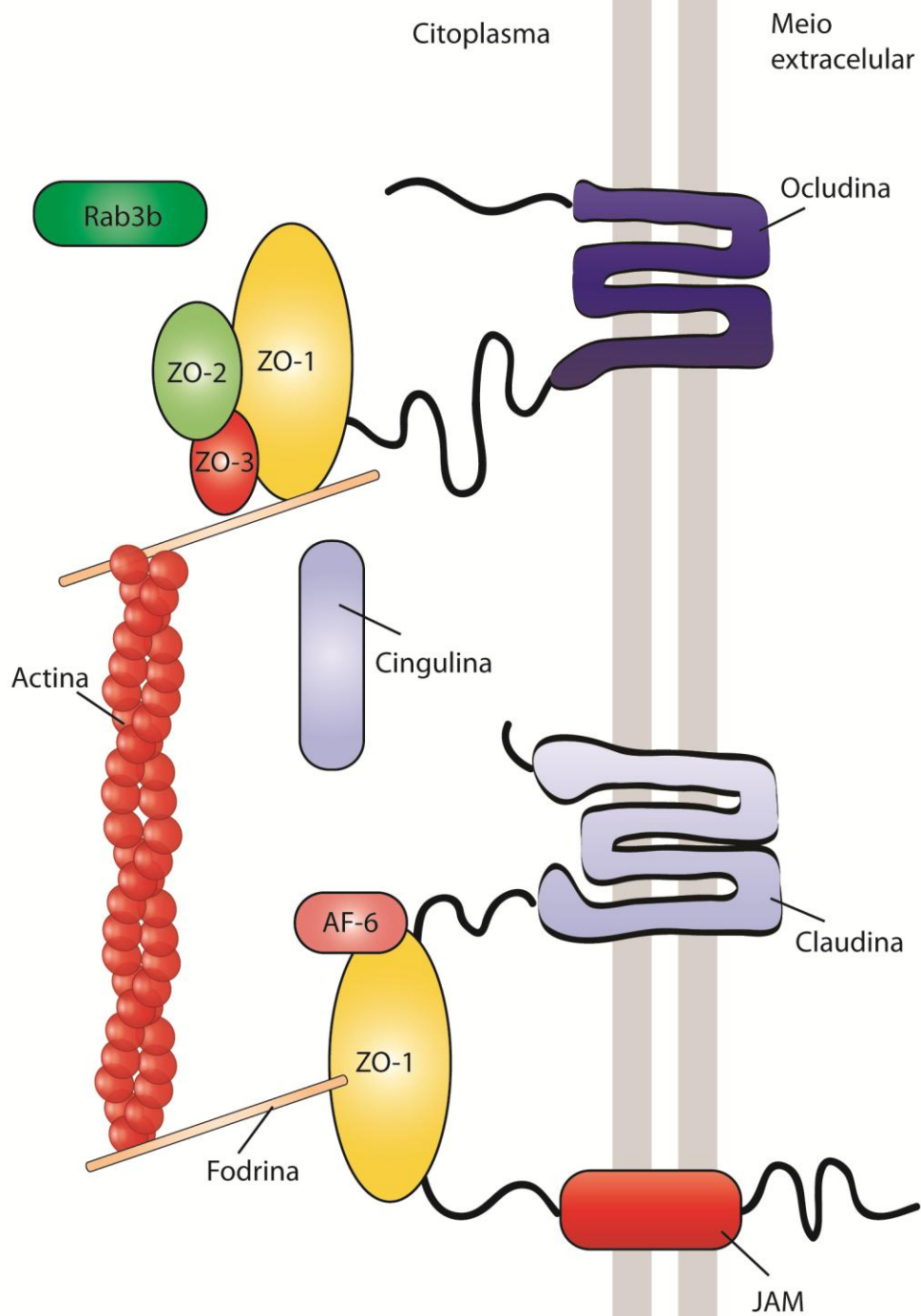
Junções entre Odontoblastos

Tipos e Composição Bioquímico-Molecular

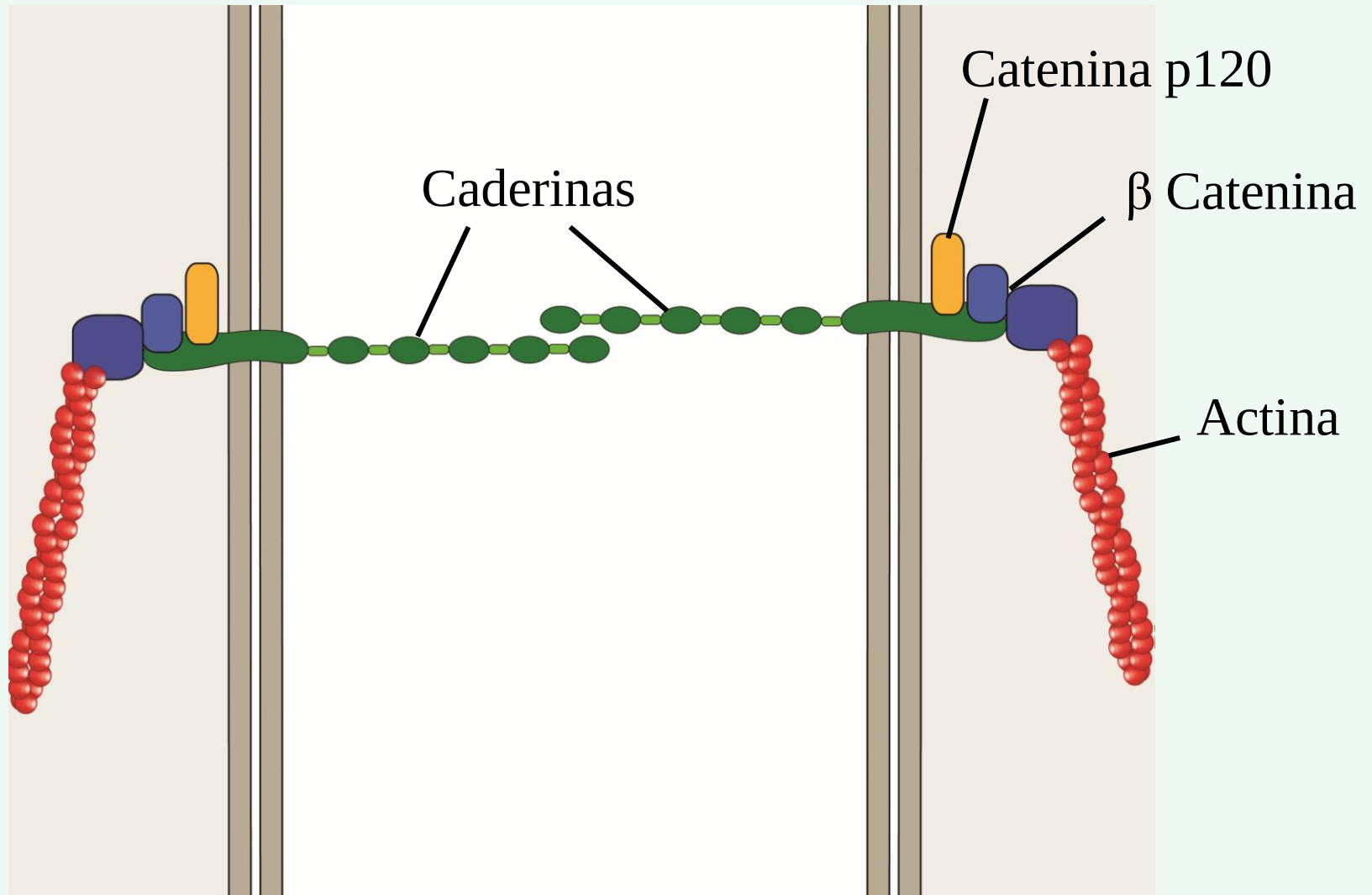
- **Oclusivas** (“tight”): focais
- **De Adesão**: aderentes focais (NÃO desmossomos)
- **Comunicantes** (“gap”)

Junções Oclusivas (“tight”)

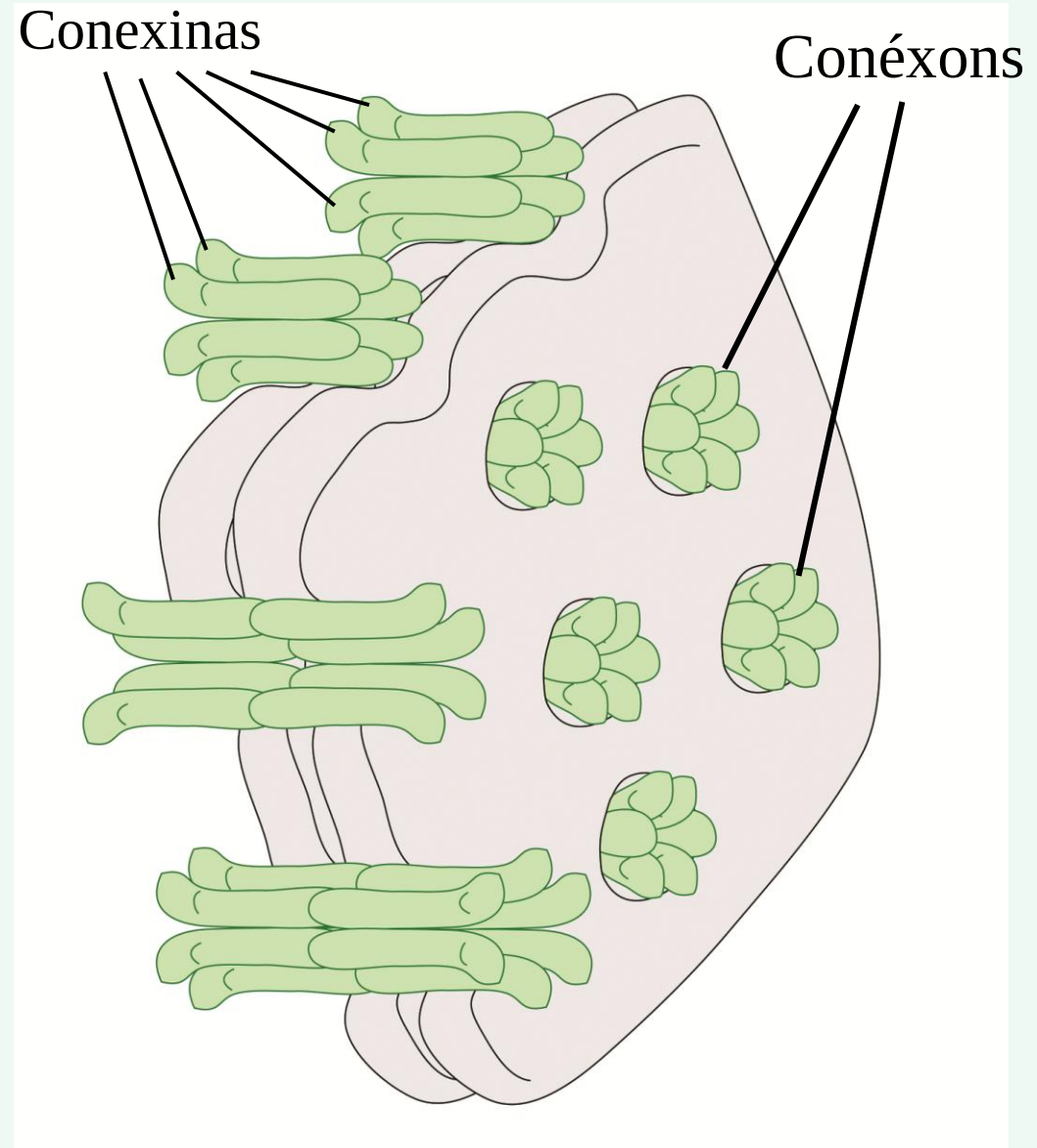


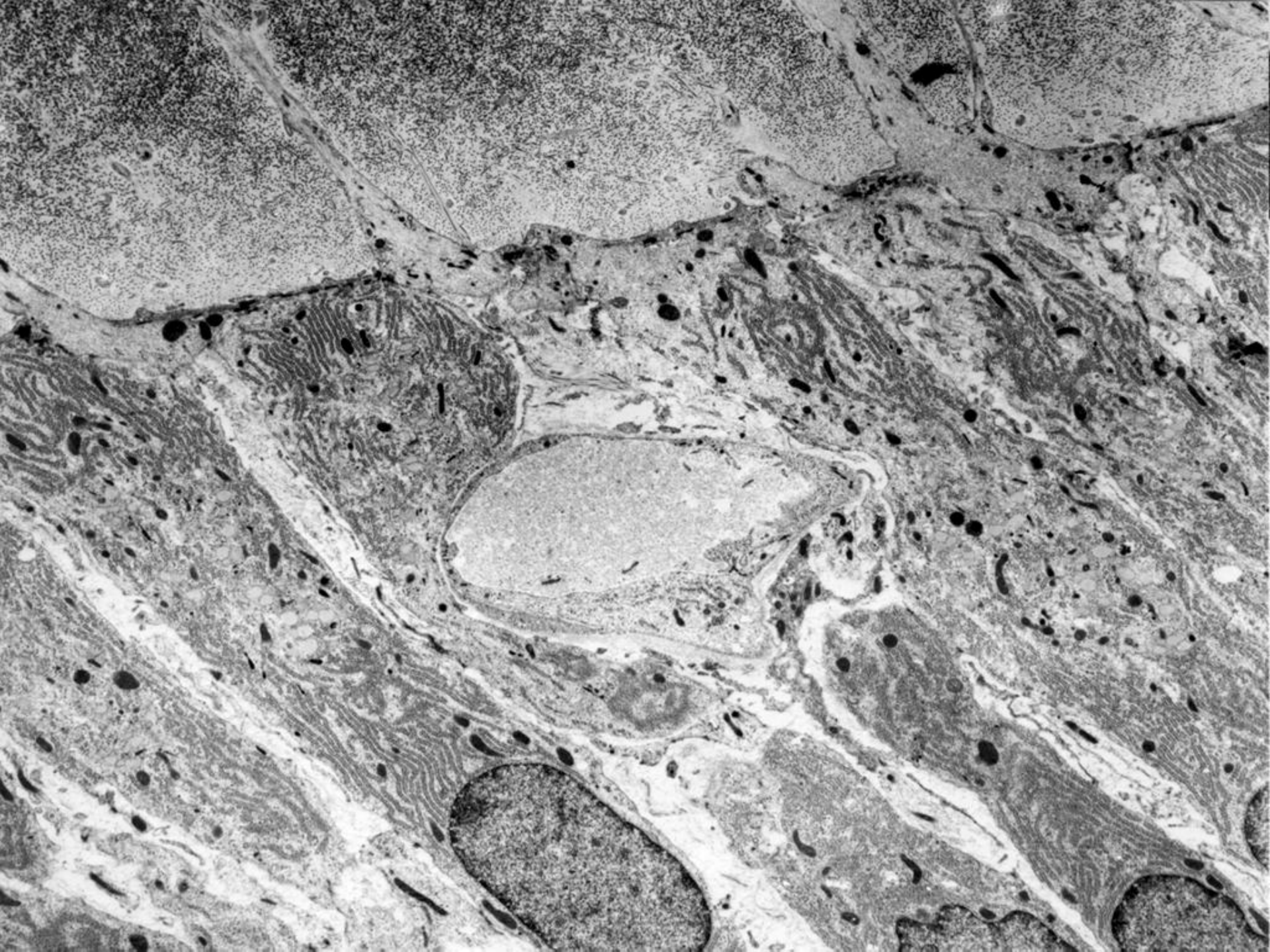


Junções Aderentes Focais

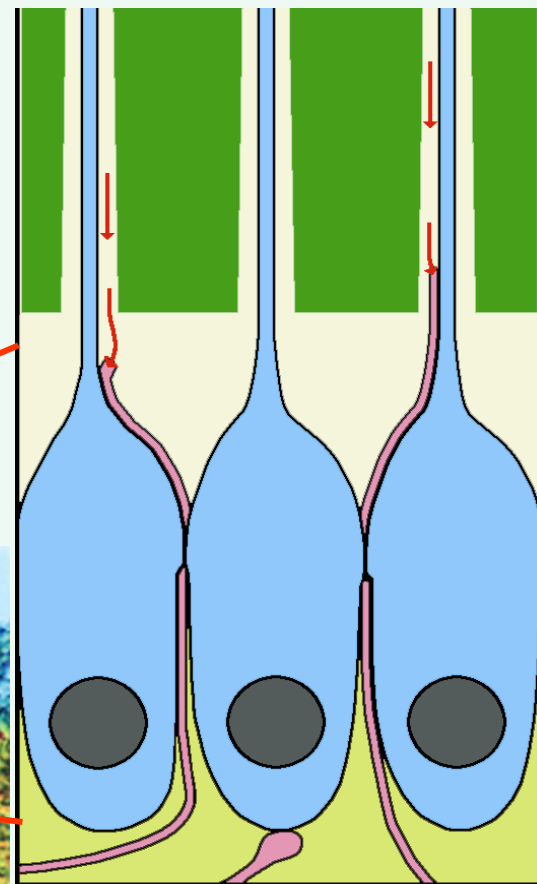
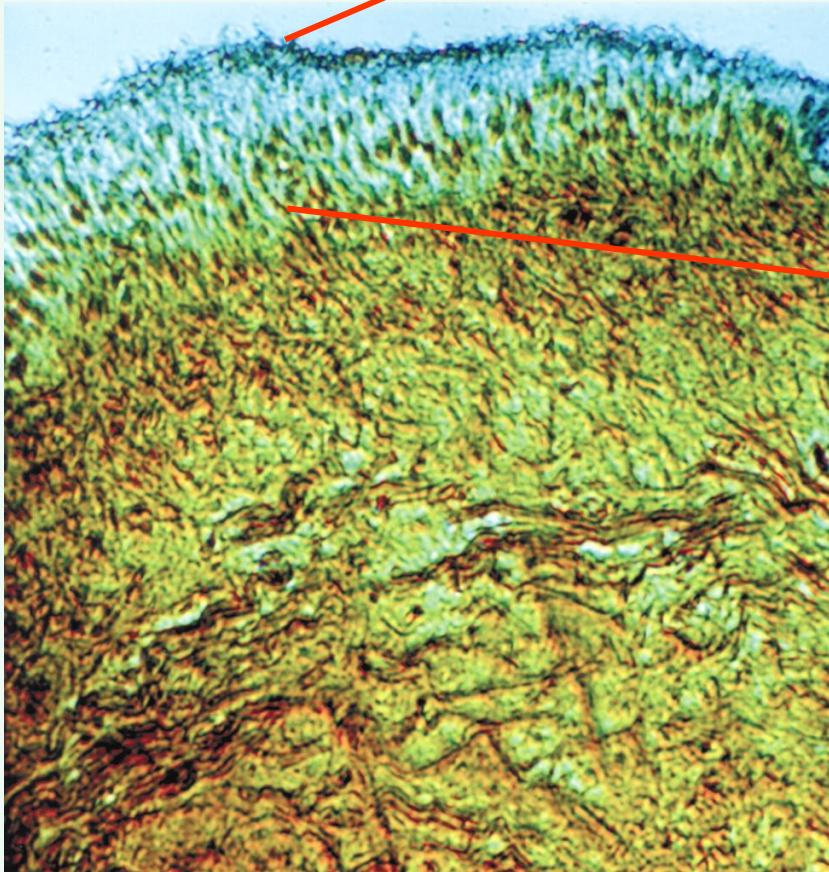


Junções Comunicantes (“gap”)



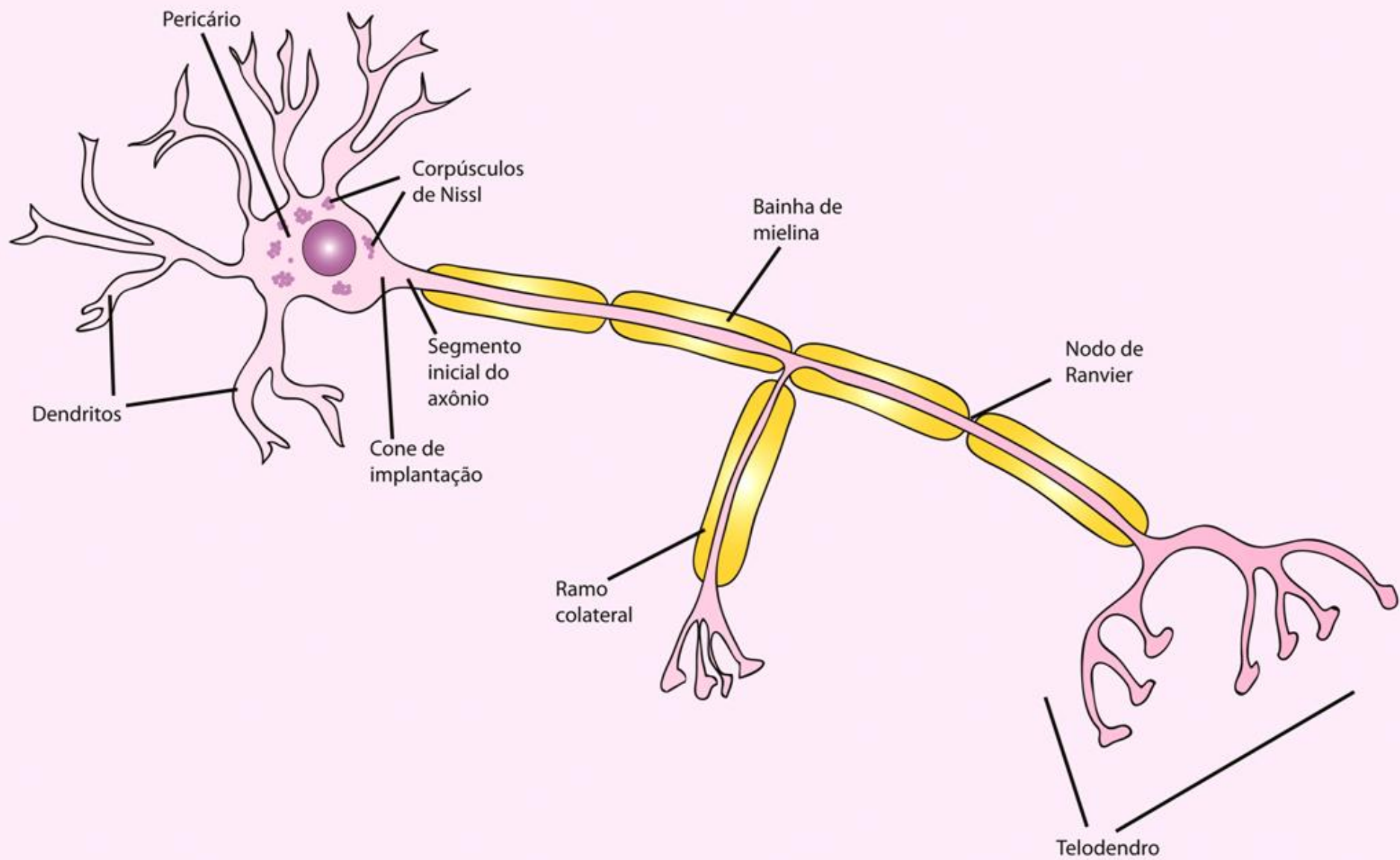


Inervação



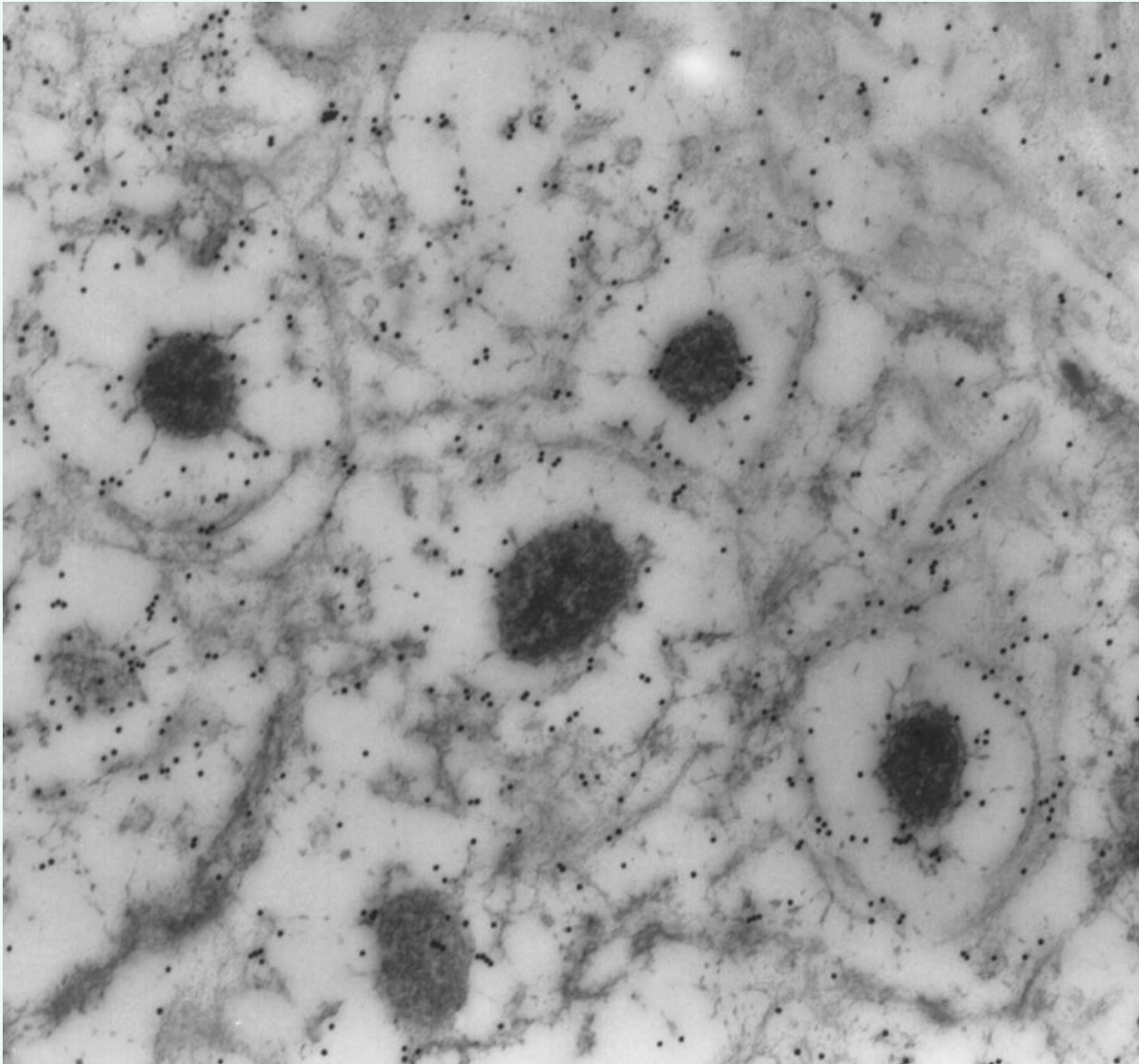
Tipos de Fibras Nervosas

Tipo de Fibra	Diâmetro (μm)	Velocidade (m/s)
A - α	12 - 21	70 - 120
A - β	6 - 12	30 - 70
A - γ	2 - 8	12 - 48
A - δ	1 - 6	3,0 - 30
B	1 - 3	2,5 - 15
C (amielínicas)	0,4 - 1,2	0,5 - 3,0

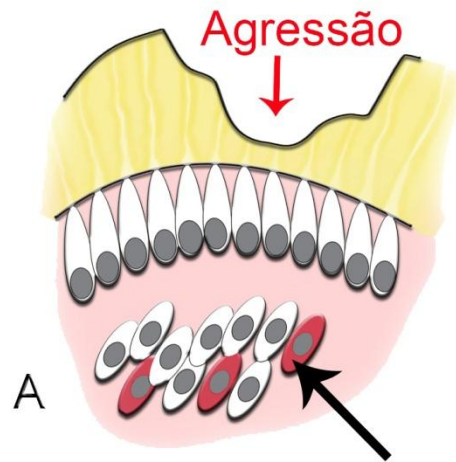


- Dentina primária
- Dentina secundária
- Dentina terciária
 - Dentina reacional
 - Dentina reparativa

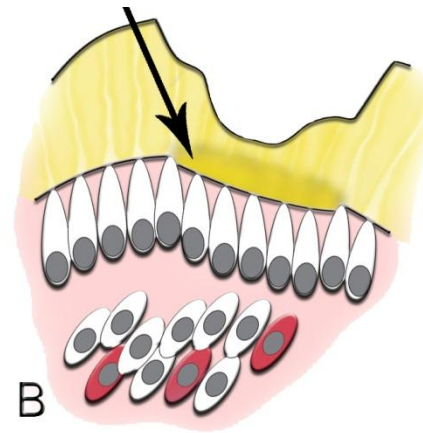
A dentina reparativa contém OSTEOPONTINA



Dentina Reacional

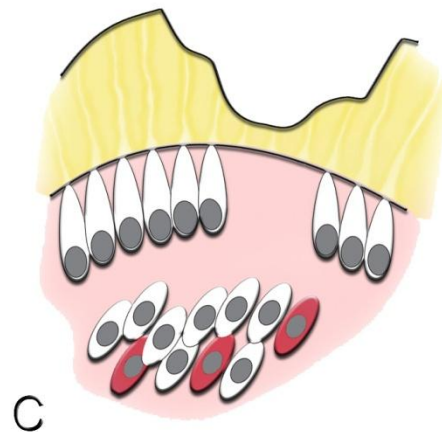


Células Ectomesenquimais
Indiferenciadas

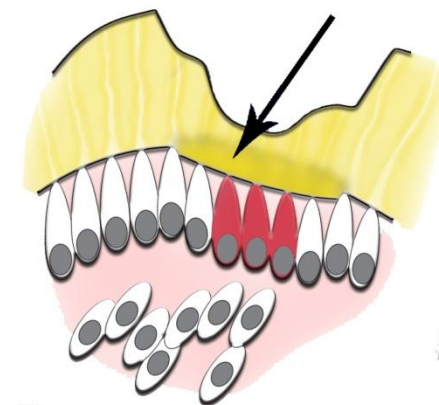


B

Dentina Reparativa



C

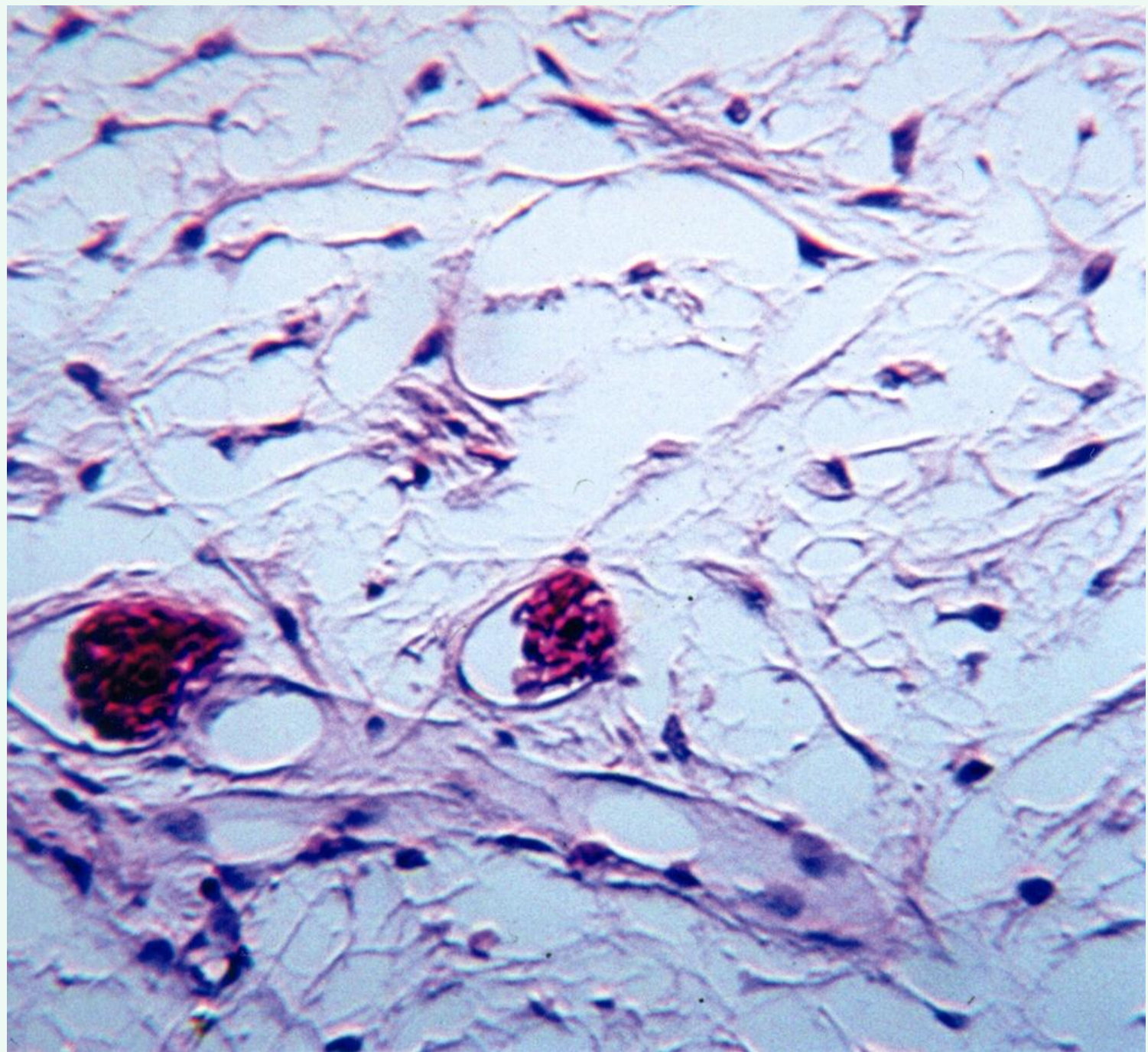


D

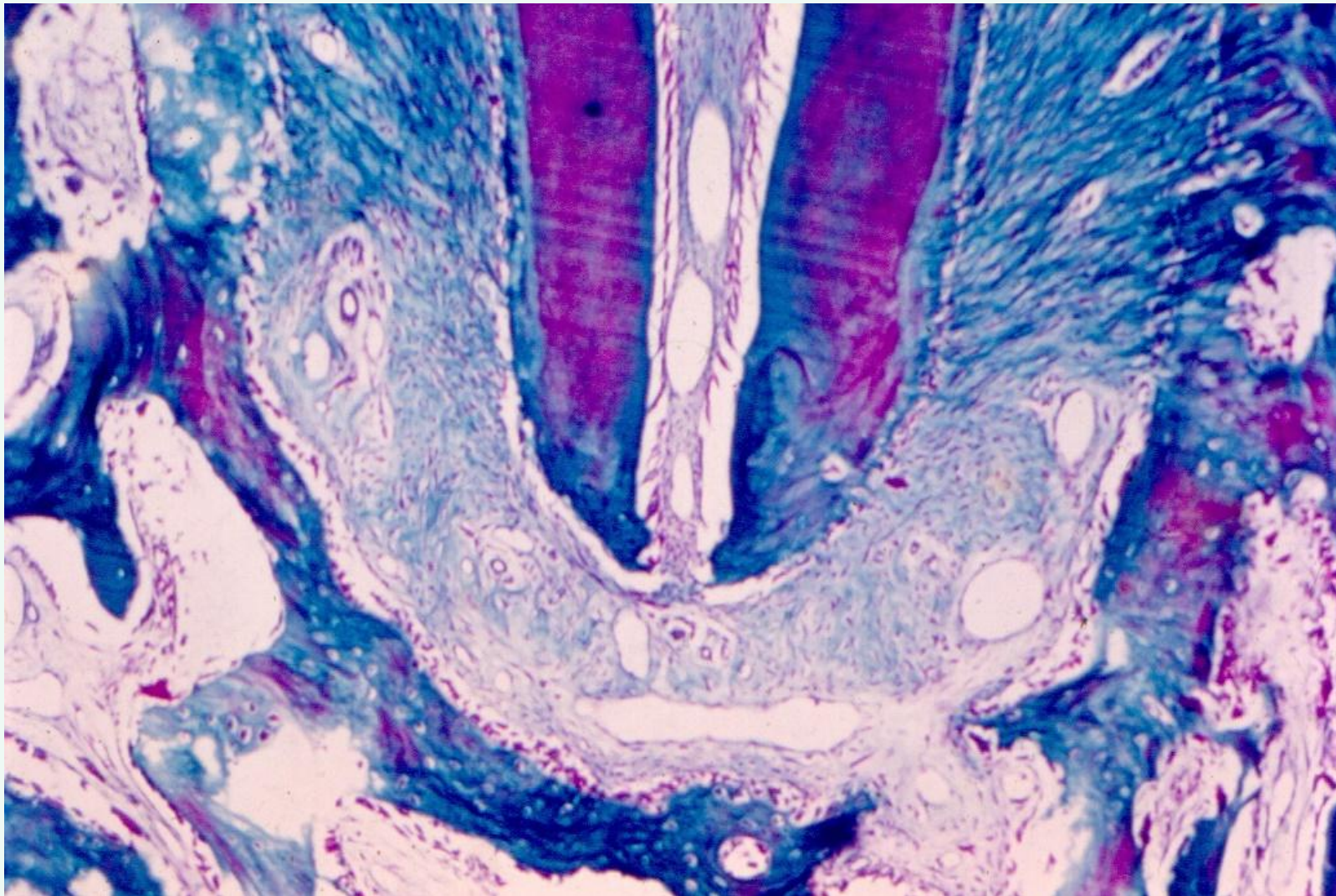
Dr. F. F. F. F.

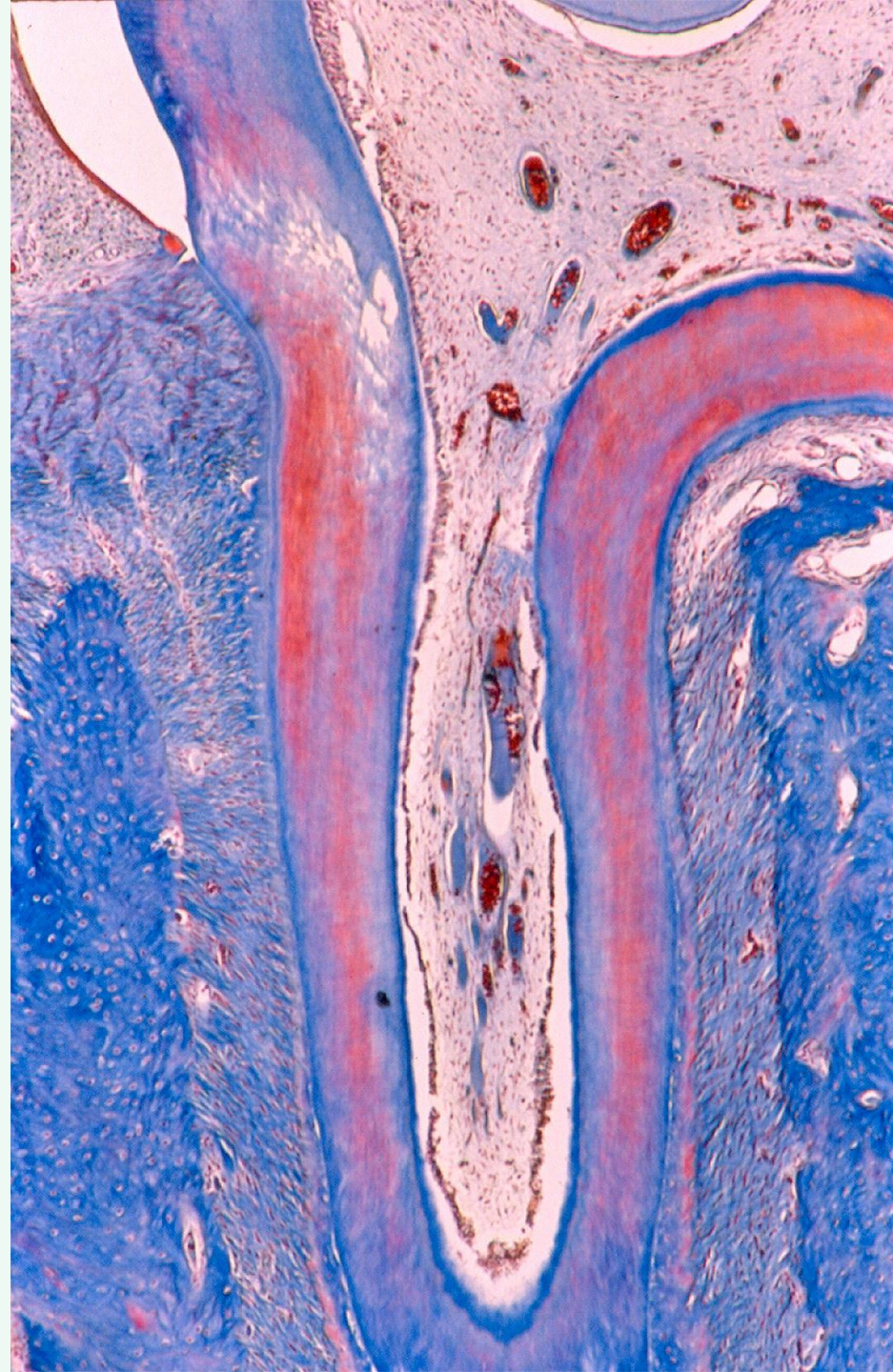
Região Central da Polpa

- **Células:** fibroblastos, macrófagos, células indiferenciadas (células tronco mesenquimais)
- **Matriz Extracelular:** fibrilas colágenas, fibronectina, tenascina C, proteoglicanos sulfatados e proteoglicanos de cadeias pequenas ricos em leucina (decorin, biglican, lumican)



Região Periapical





PERIODONTO

PERIODONTO DE INSERÇÃO OU SUSTENTAÇÃO

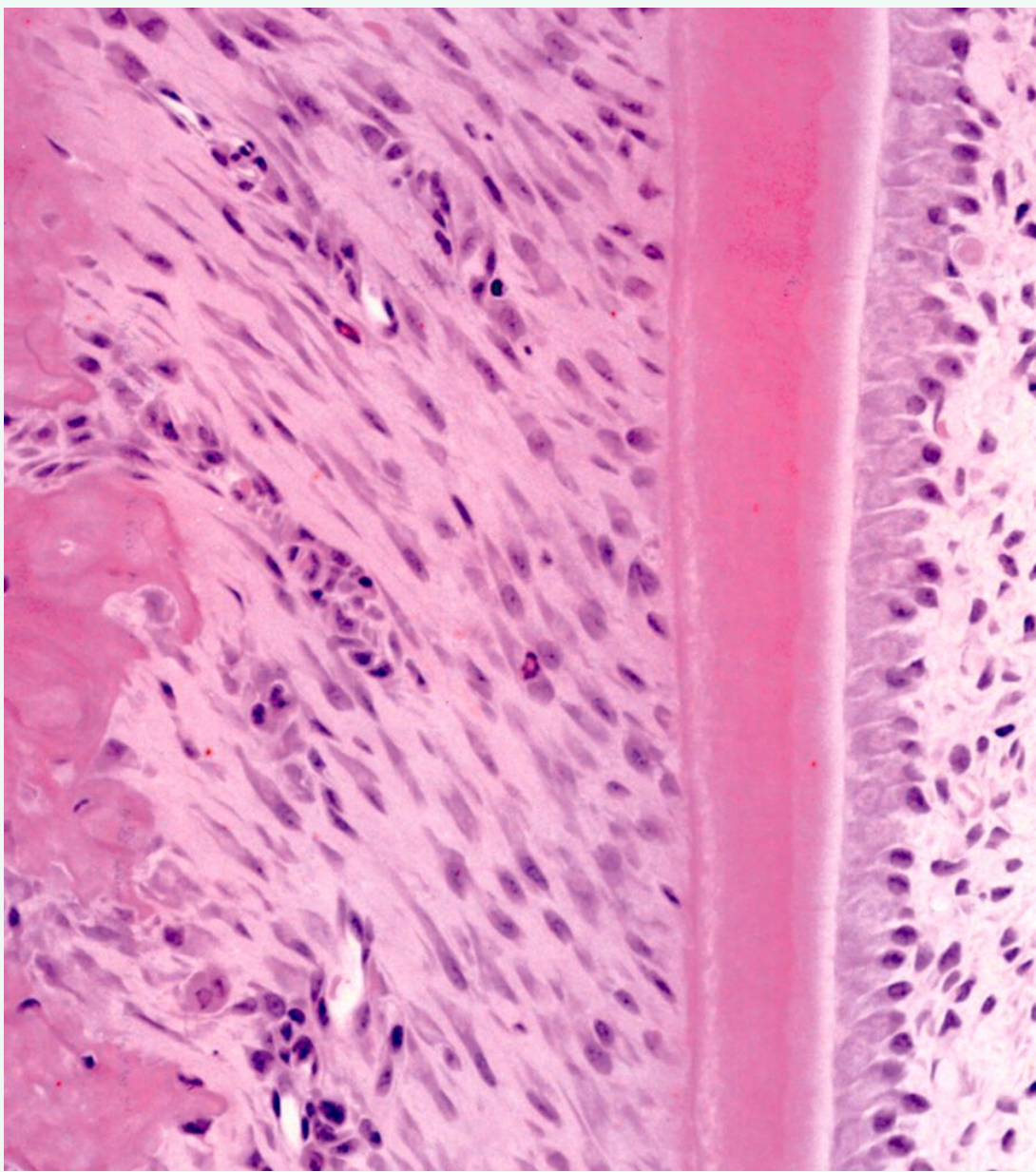
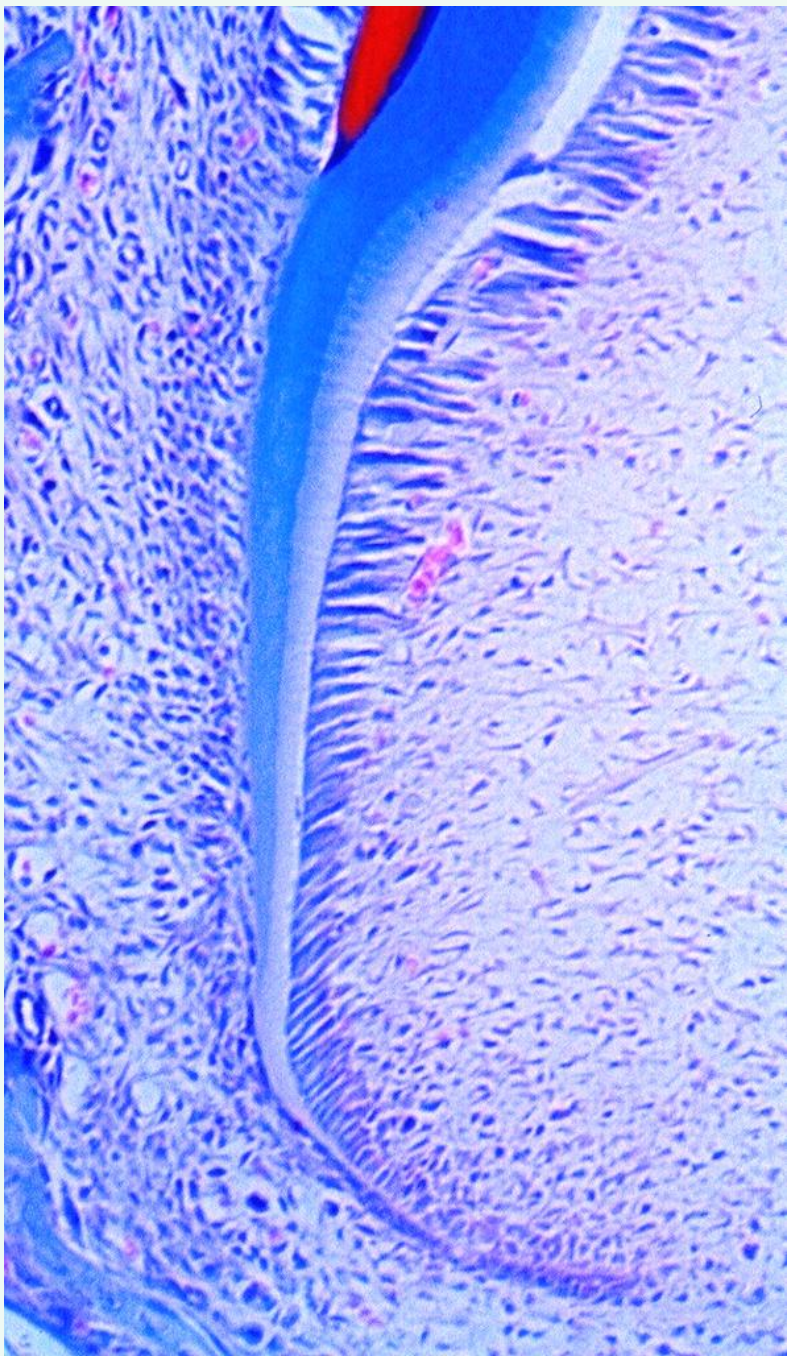
- Cimento
- Ligamento Periodontal
- Osso Alveolar

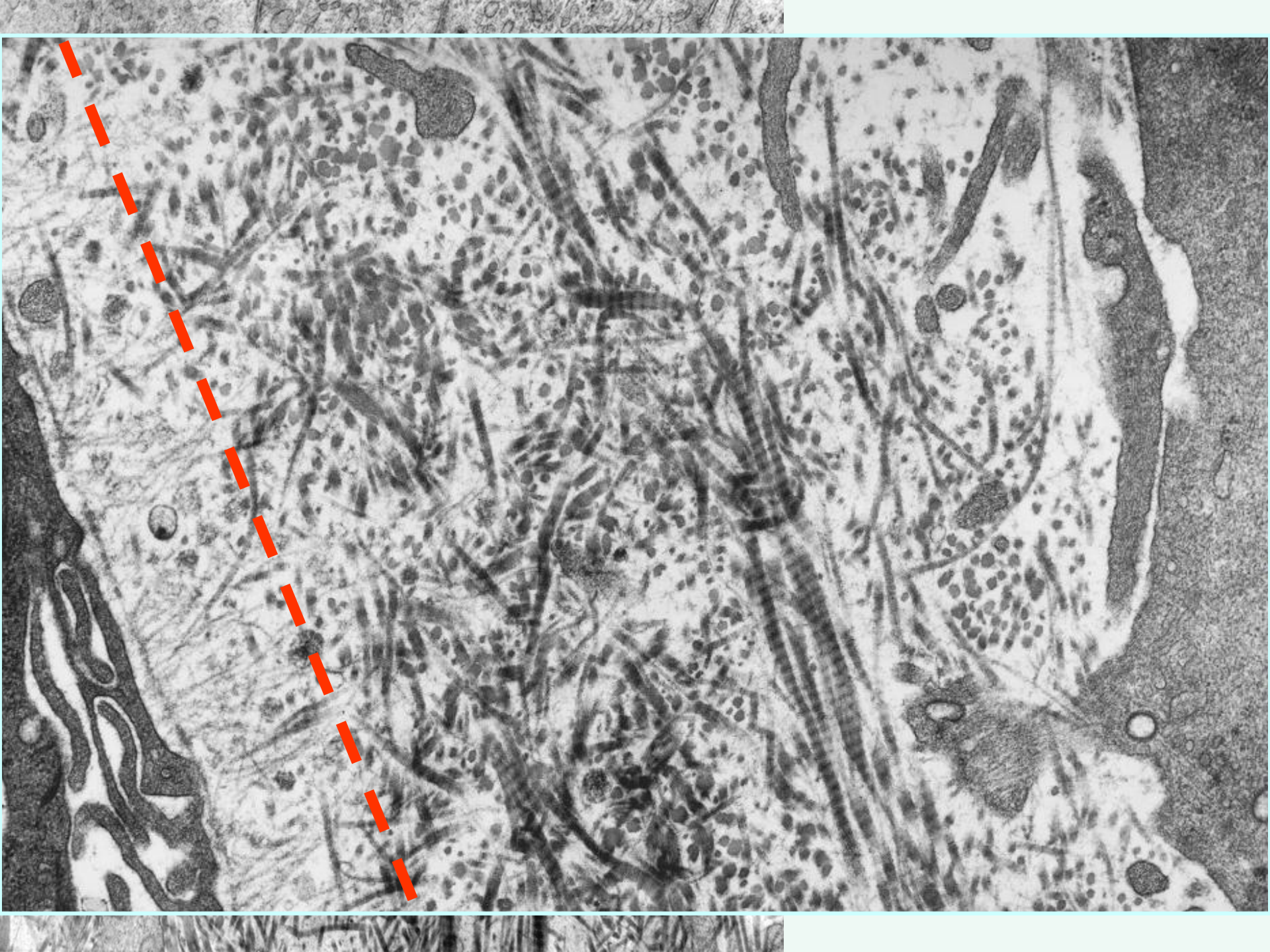
PERIODONTO MARGINAL OU DE PROTEÇÃO

- Gengiva

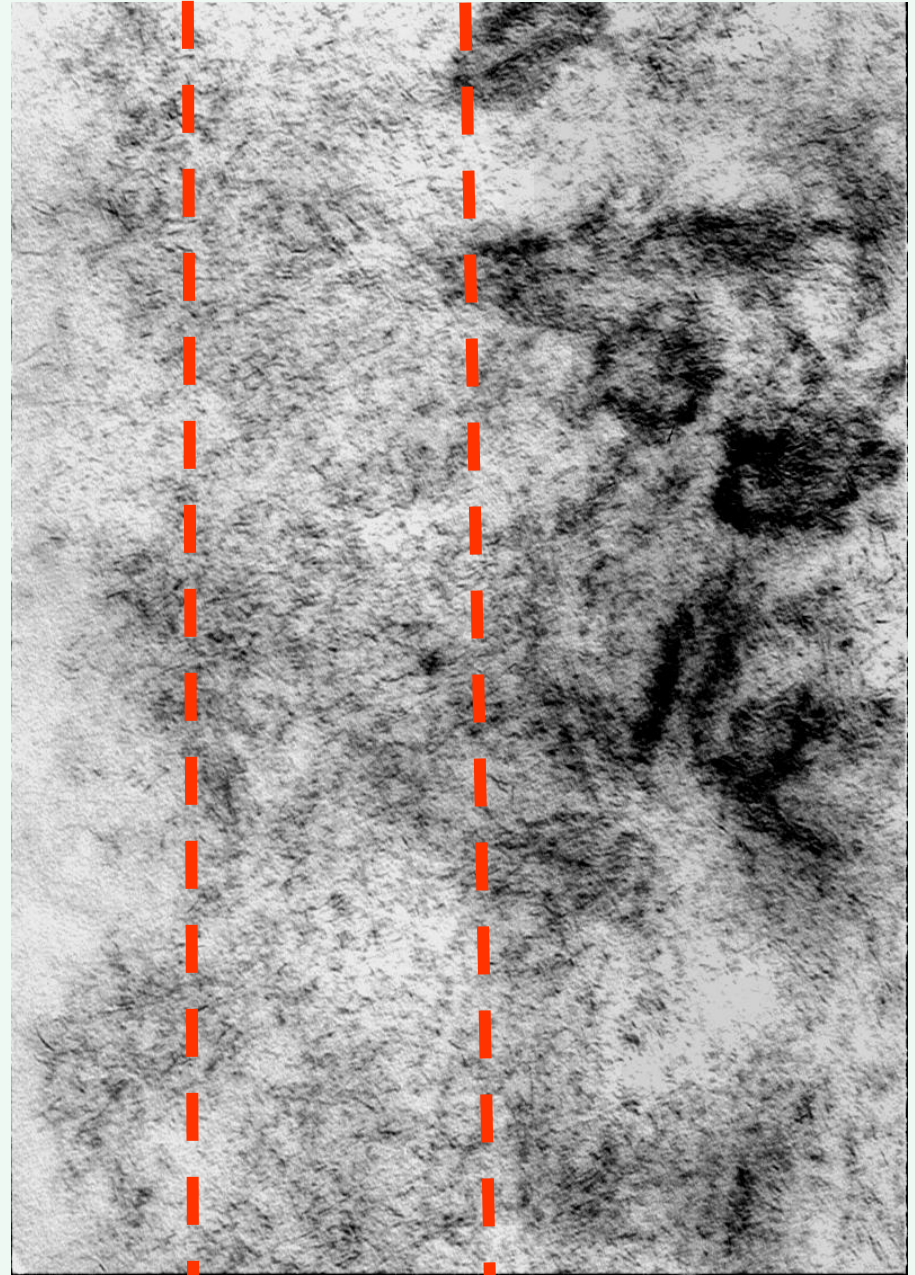
Adesão do cimento à dentina radicular

- A cementogênese inicia-se assim que a dentina do manto radicular começa sua mineralização.
- A junção cimento-dentina não é similar às linhas cimentantes do tecido ósseo.
- O cimento se adere à dentina radicular por meio da **camada hialina**.

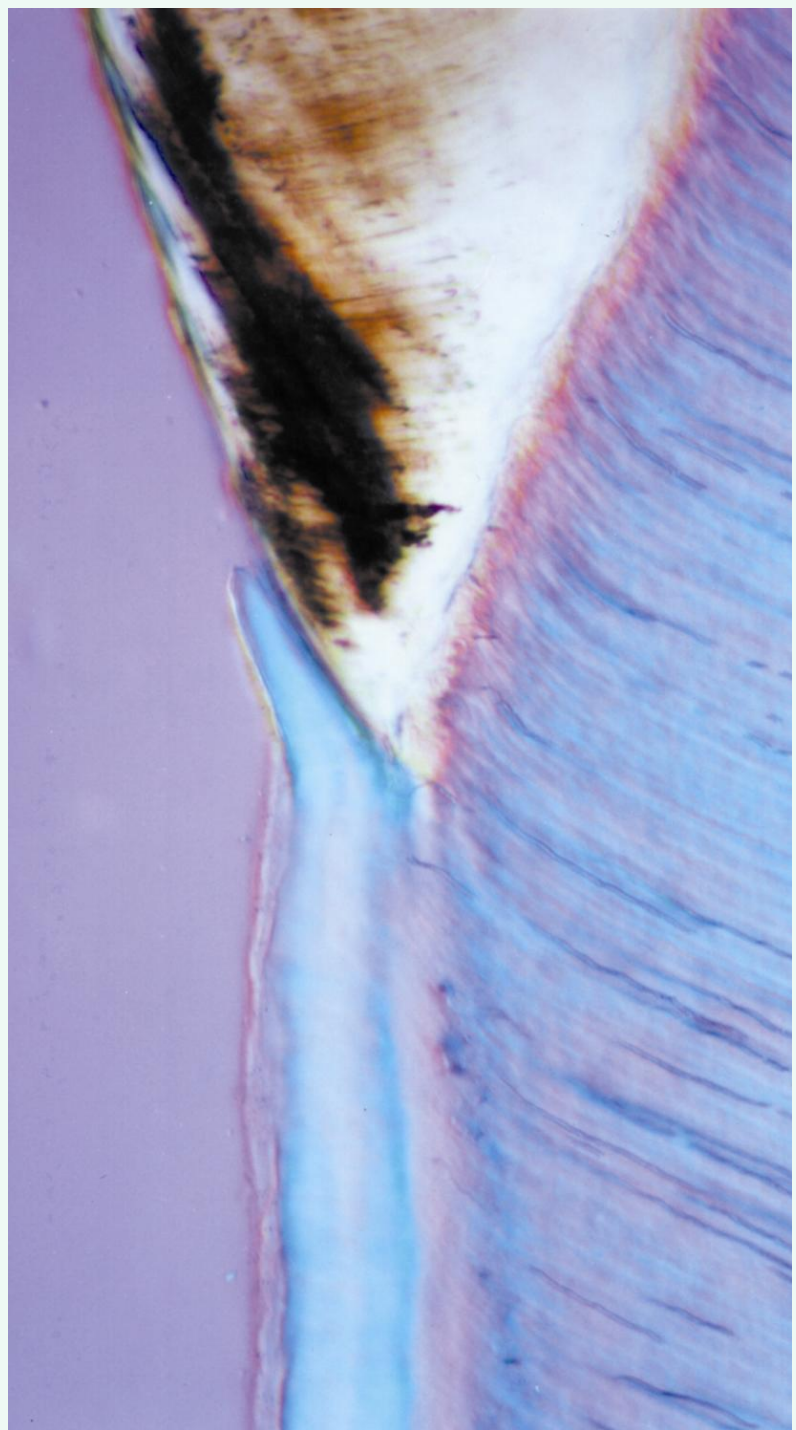




Camada Hialina: adesão do cimento à dentina radicular



Cemento



Constituintes orgânicos do cimento

- Colágeno tipo I 80-85%
- Colágeno tipos III e V 5%
- Constituintes não colágenos: 10-15%
 - Proteoglicanos
 - Sialoproteína óssea
 - Glicoproteínas (Osteopontina, osteonectina, fibronectina)
 - Proteína de adesão cementária
 - Fatores de crescimento (FGF, IGF, TGF, BMPs)
 - Proteínas séricas

Tipos de Cimento

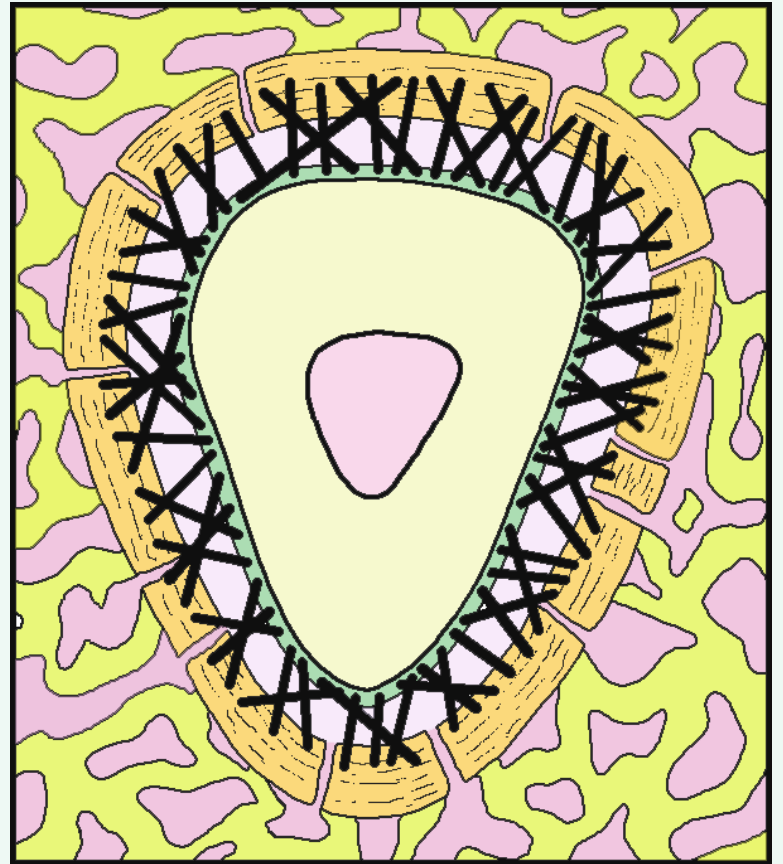
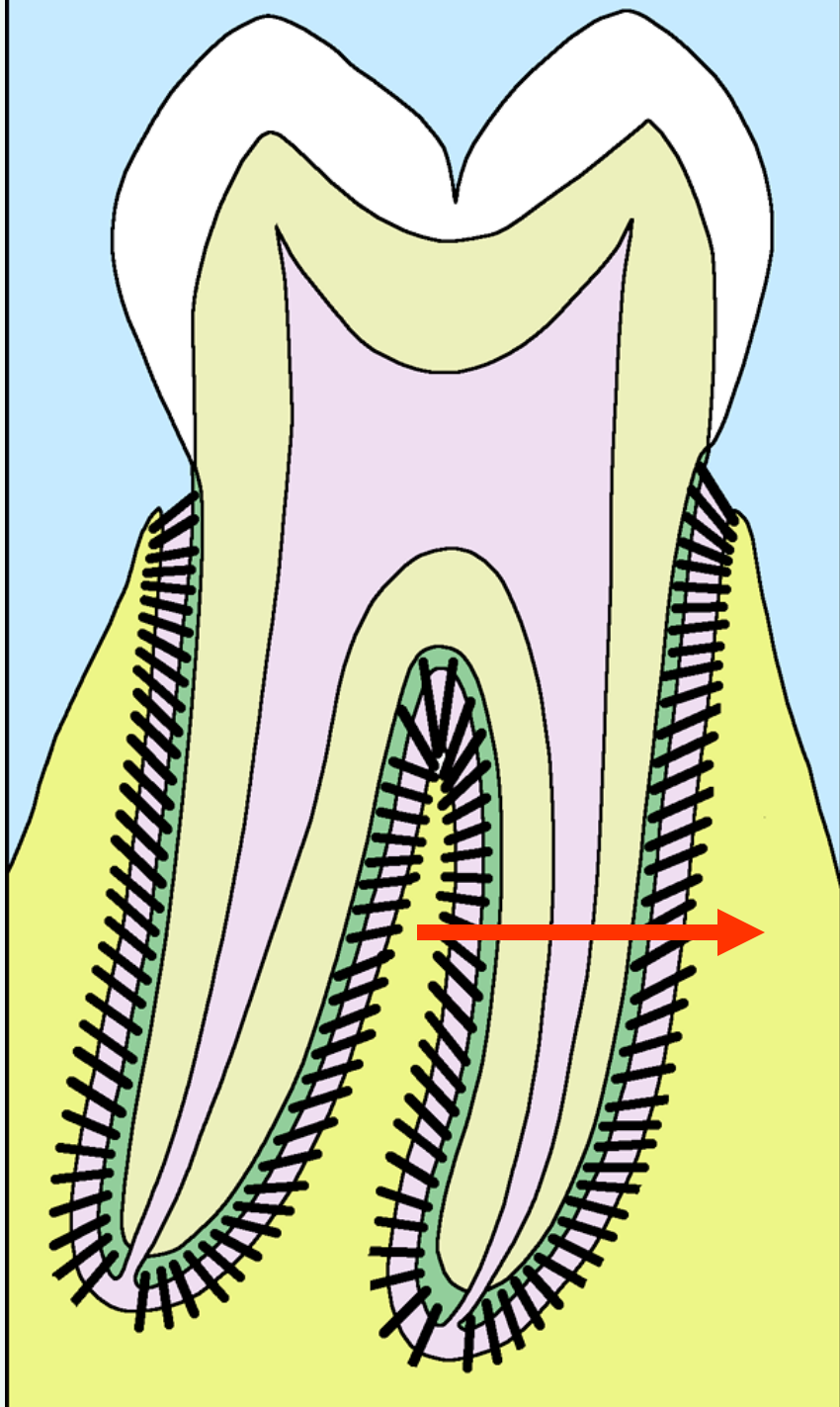
De acordo com a presença ou não de células (cementócitos)

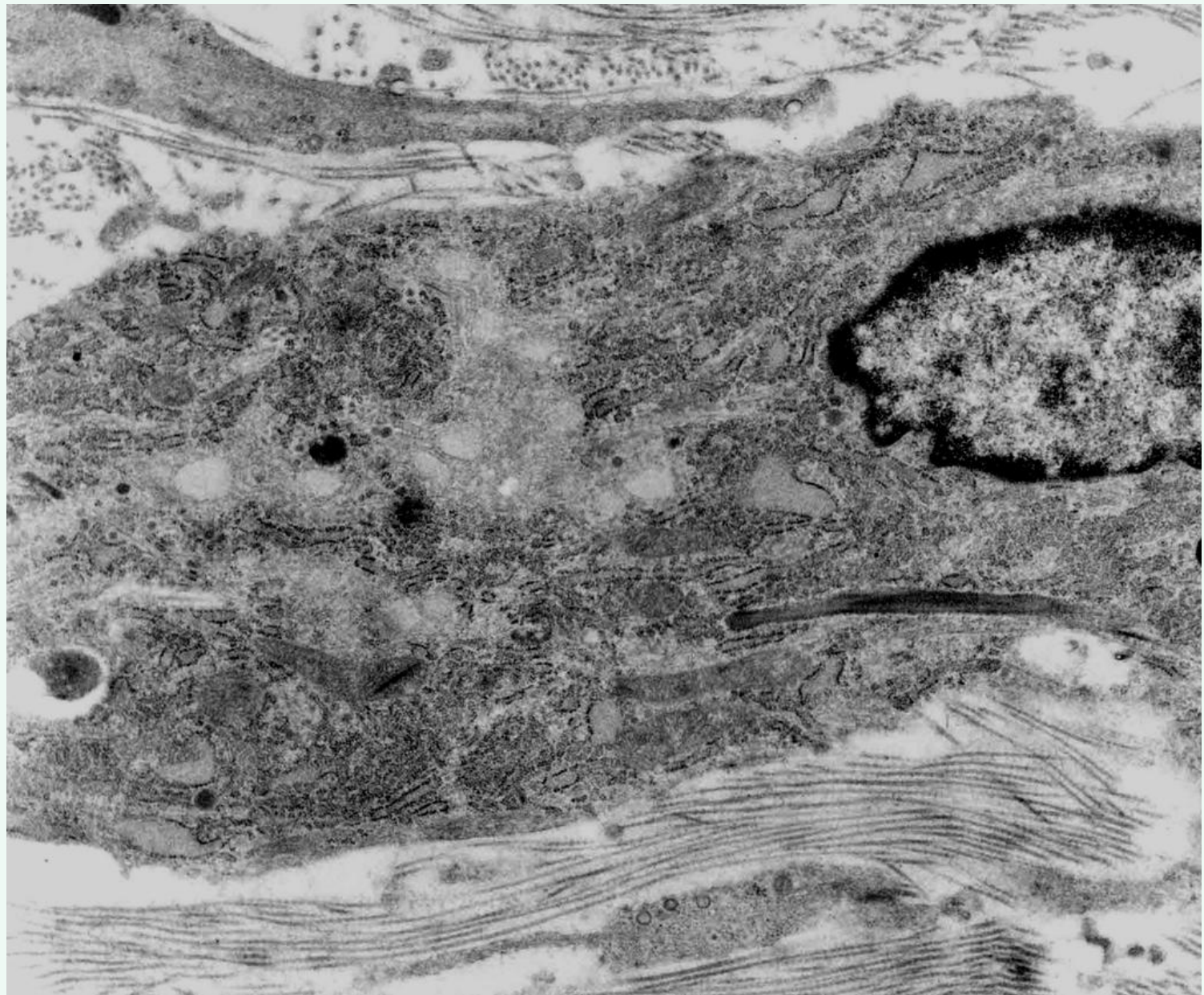
- Cimento acelular
- Cimento celular

De acordo com a origem das fibras colágenas da sua matriz

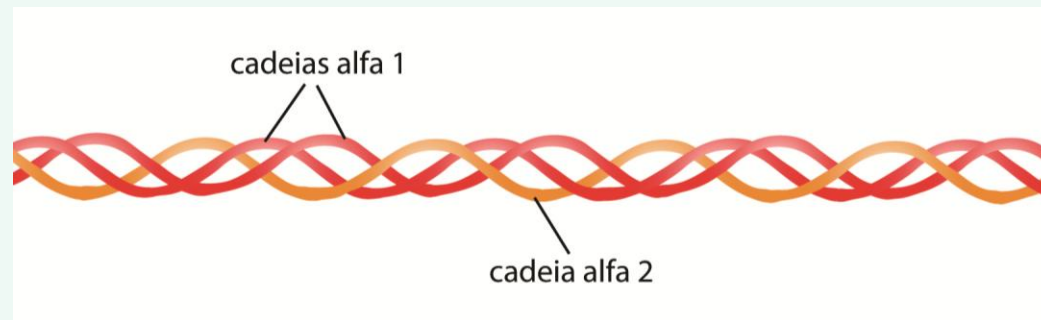
- Cimento de fibras extrínsecas
- Cimento de fibras mistas
- Cimento de fibras intrínsecas

Ligamento Periodontal

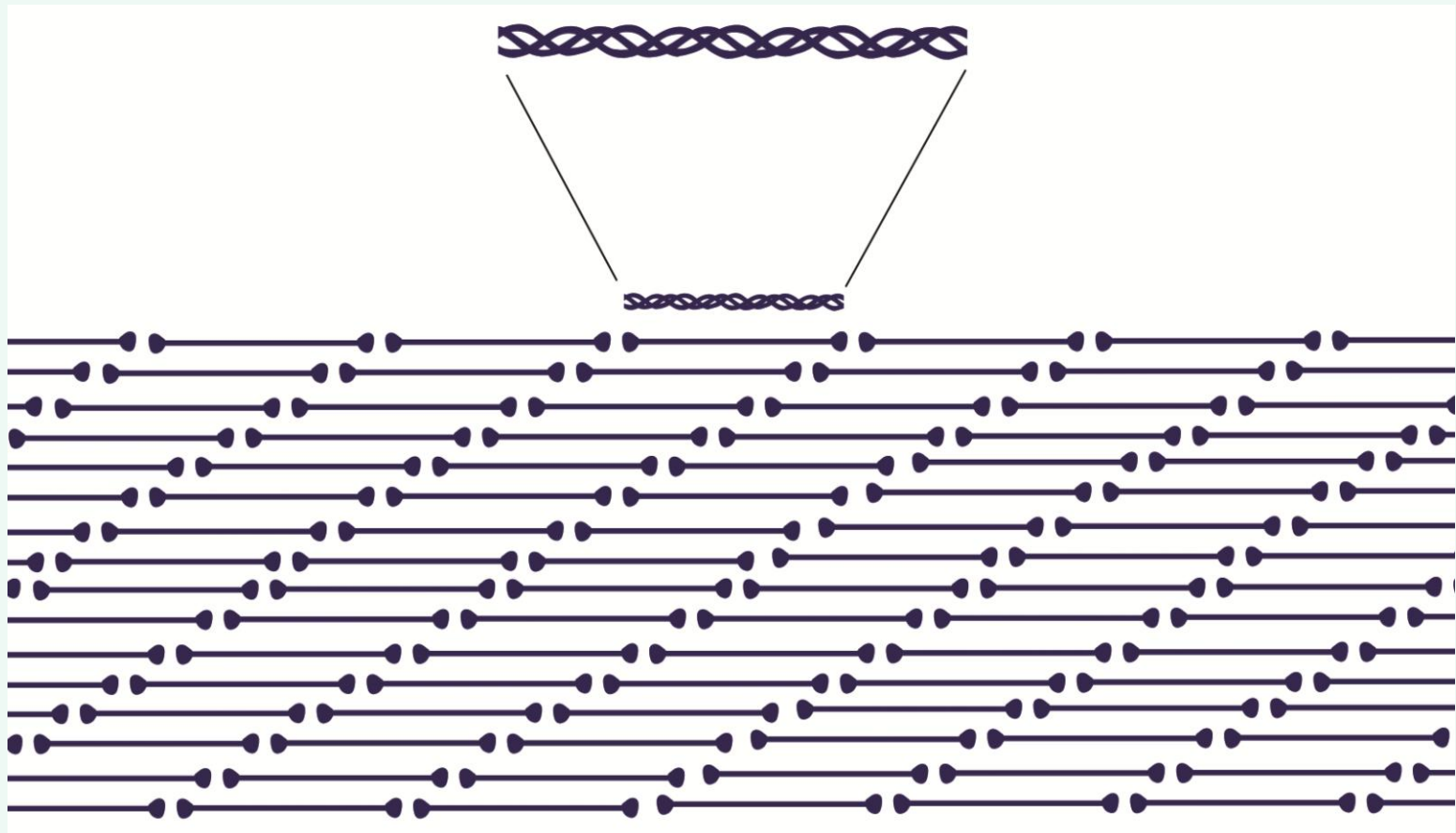




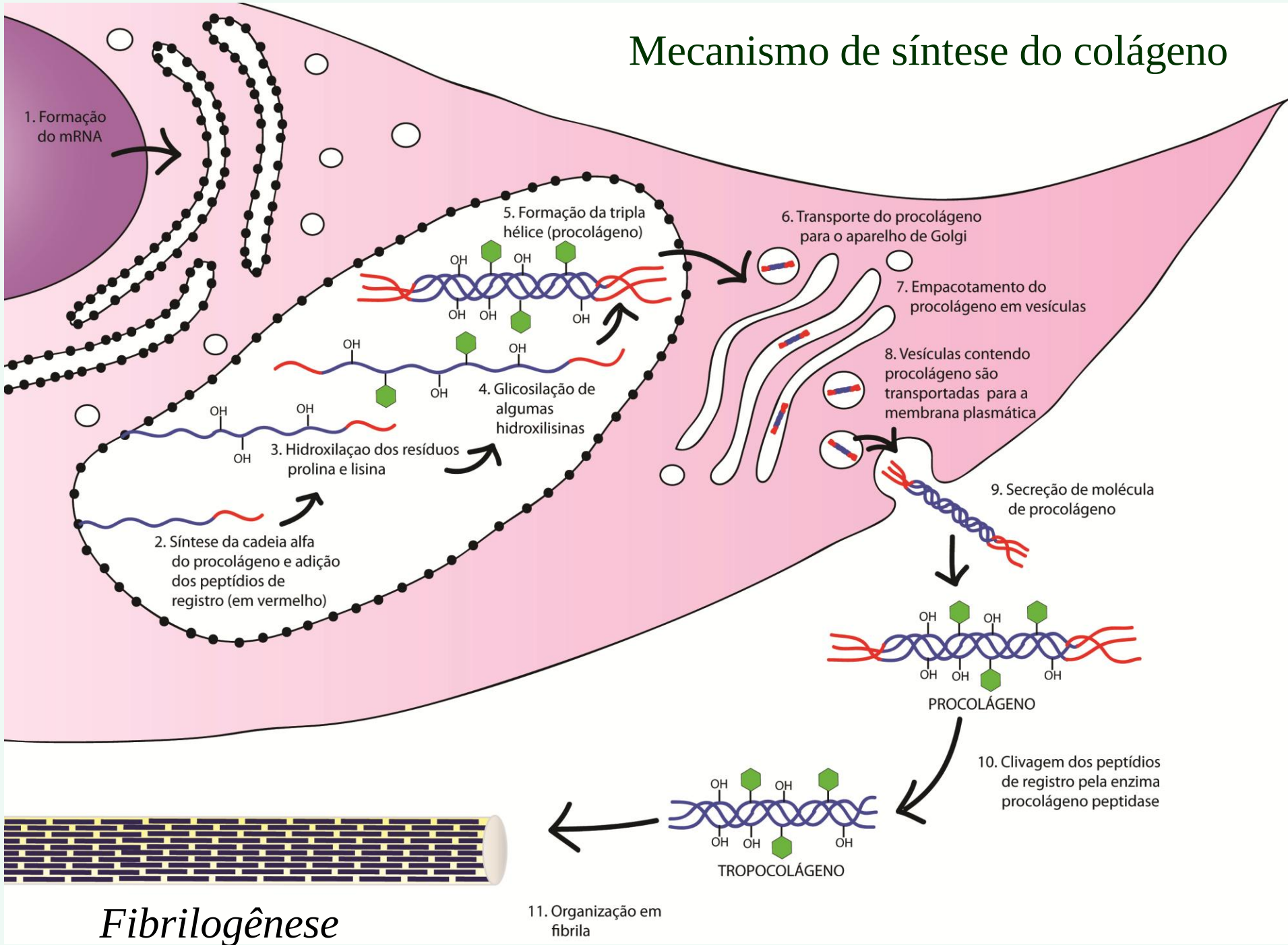
Colágeno do Tipo I



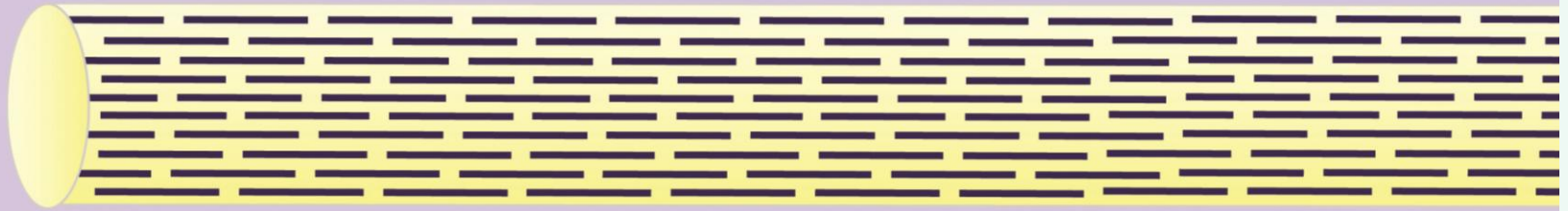
TROPOCOLÁGENO



Mecanismo de síntese do colágeno

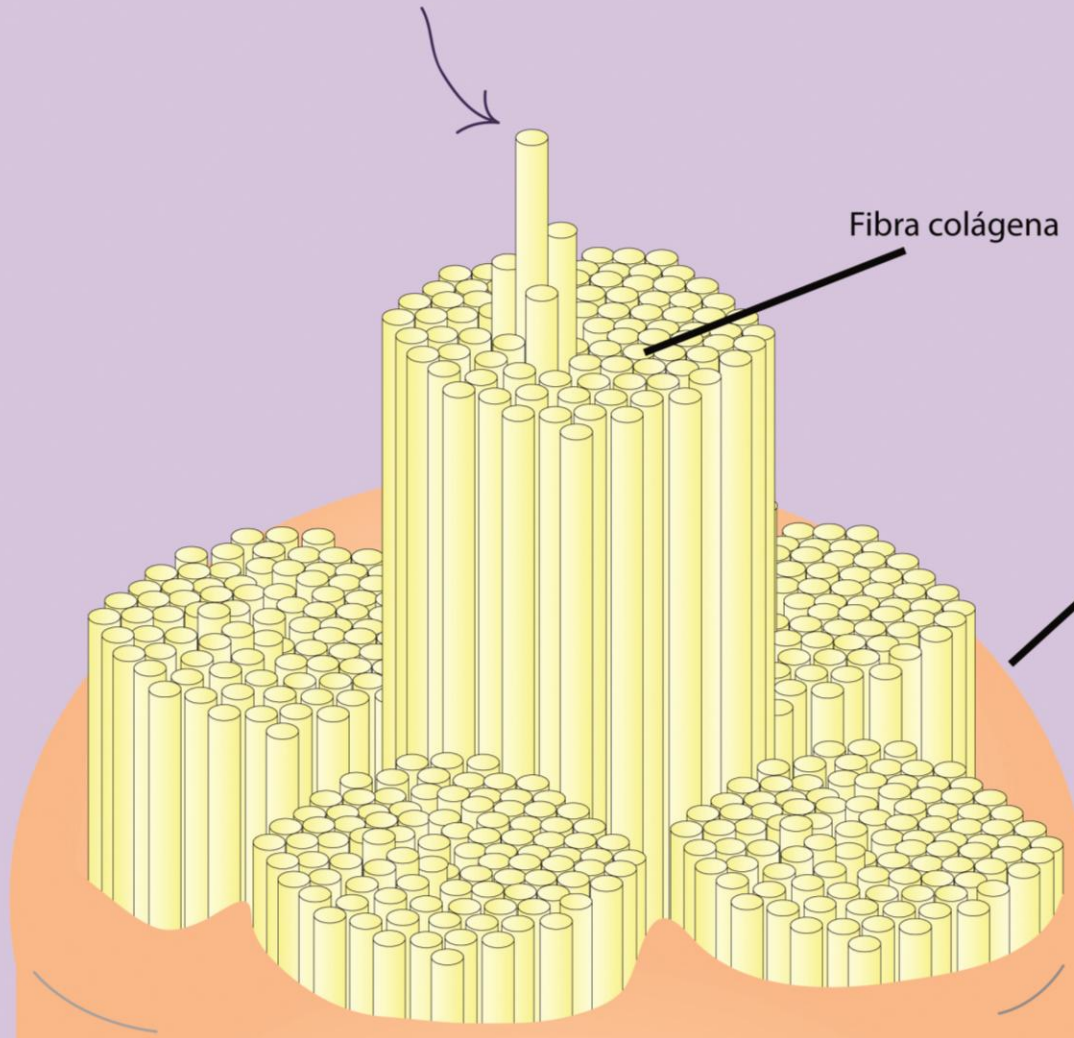


Fibrila colágena



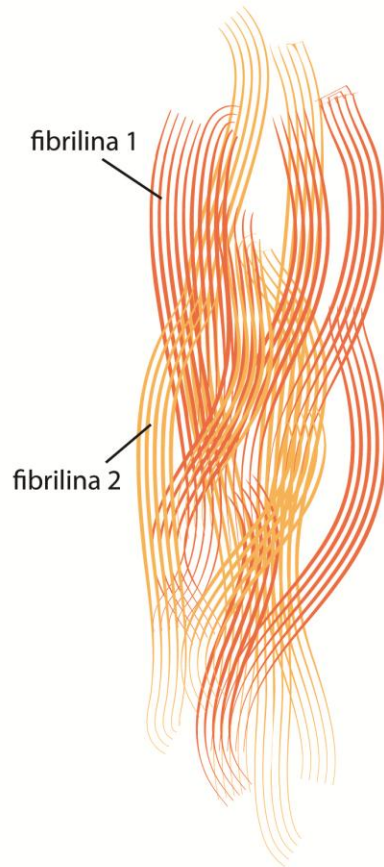
Fibra colágena

Feixe de fibras
colágenas

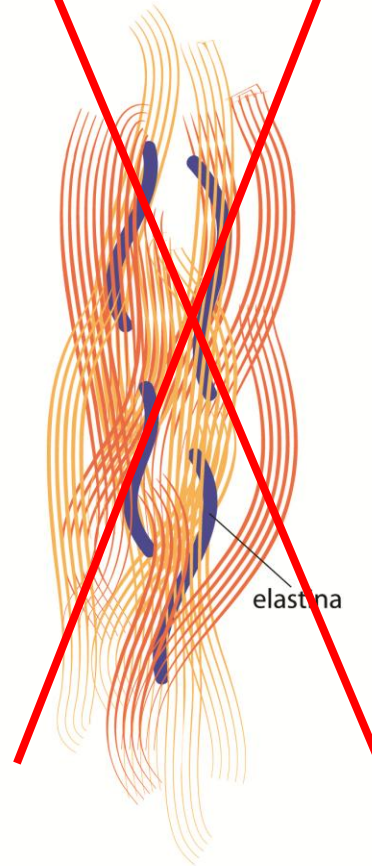


Fibras Oxitalânicas no Ligamento Periodontal

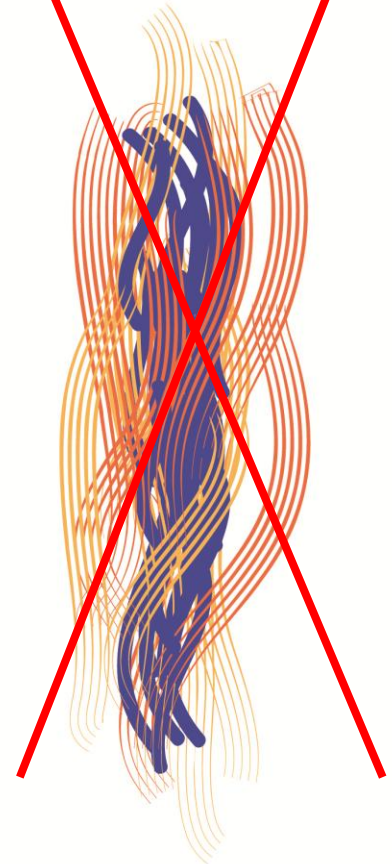
FIBRA OXITALÂNICA



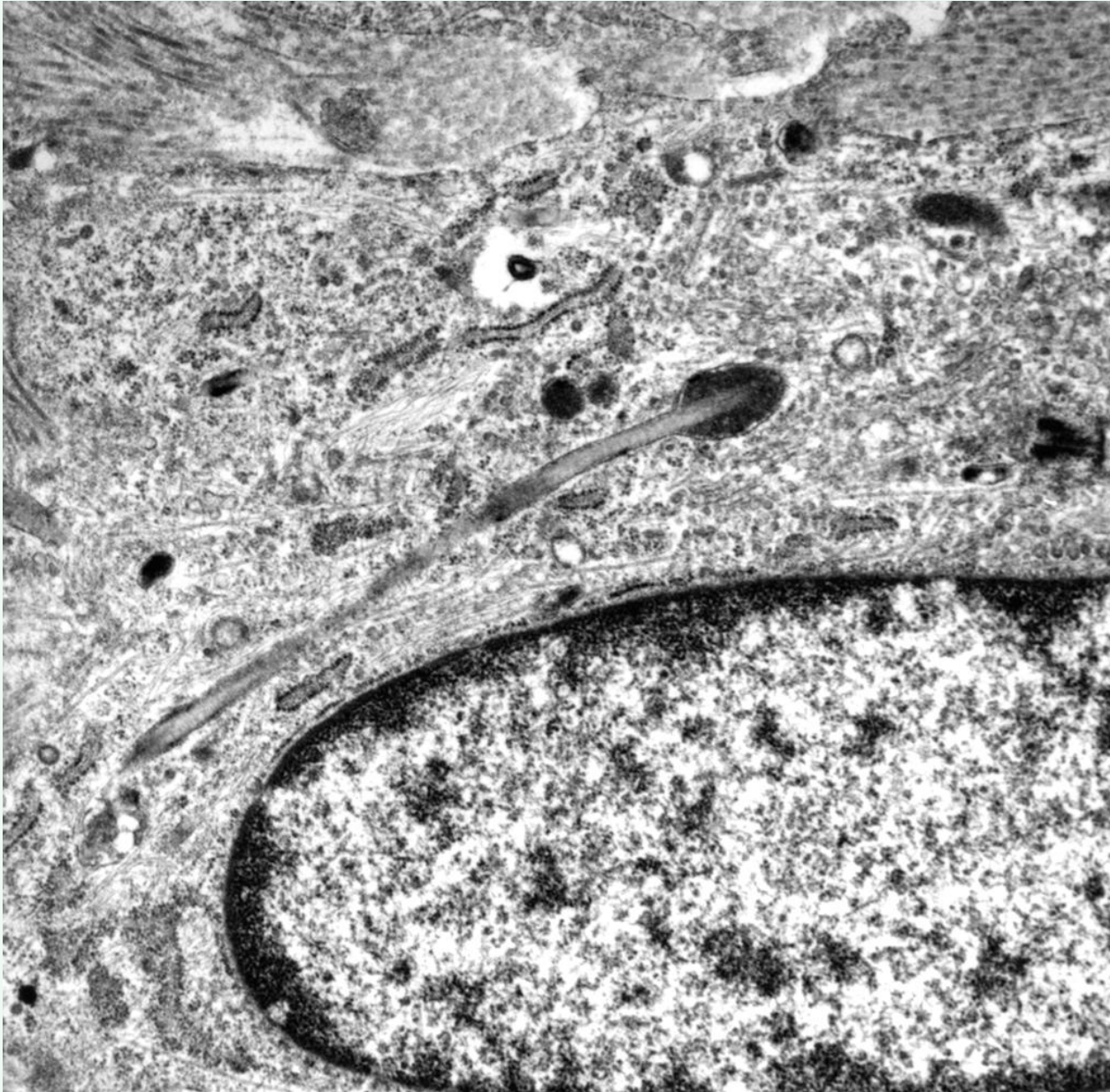
FIBRA ELAUNÍNICA



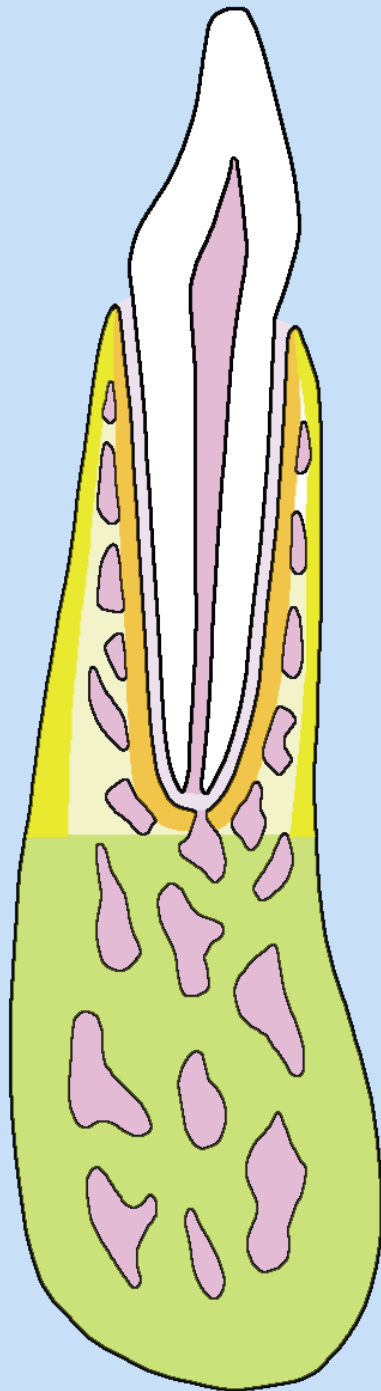
FIBRA ELÁSTICA



No ligamento periodontal, os fibroblastos sintetizam e também fagocitam e degradam o colágeno

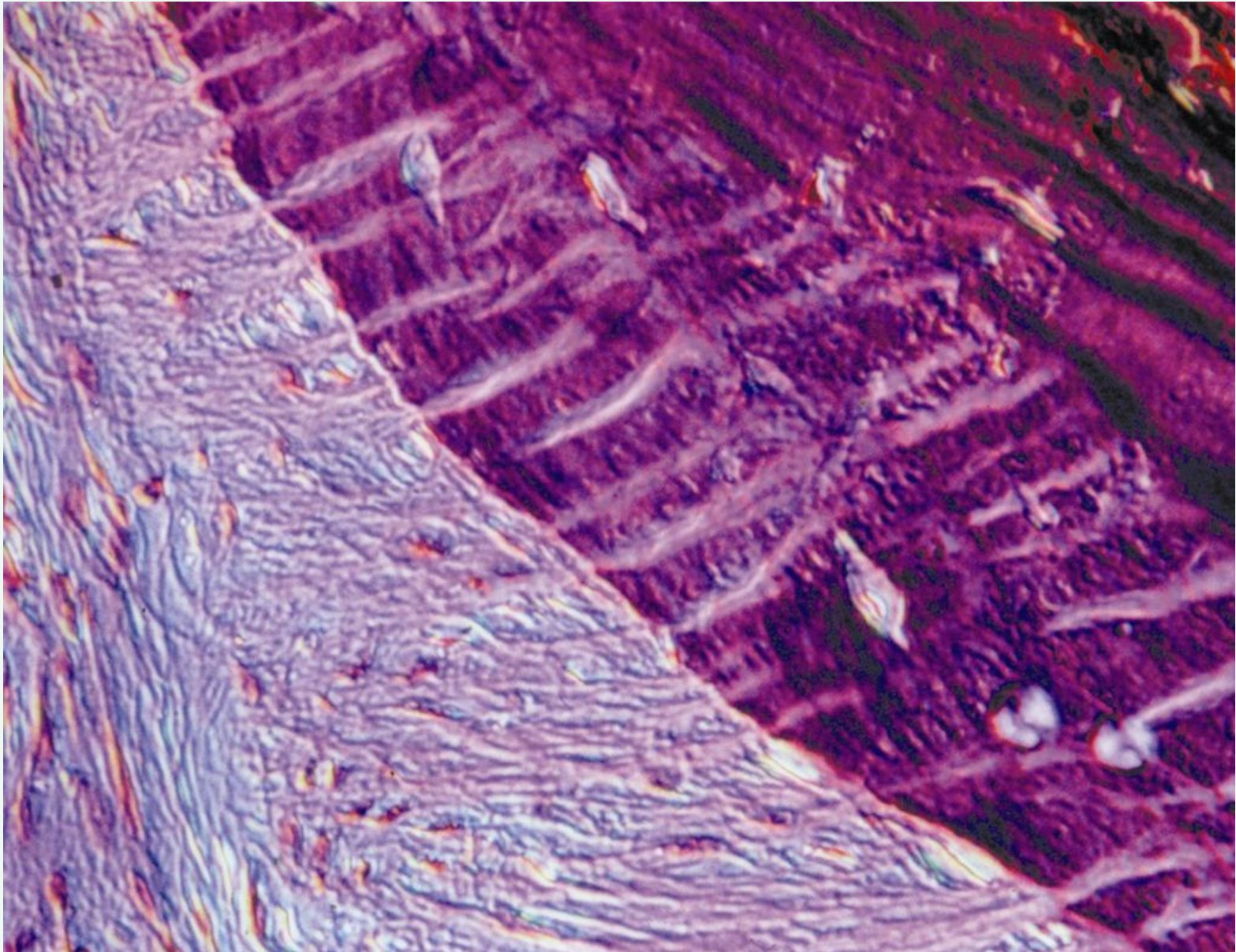


Osso Alveolar

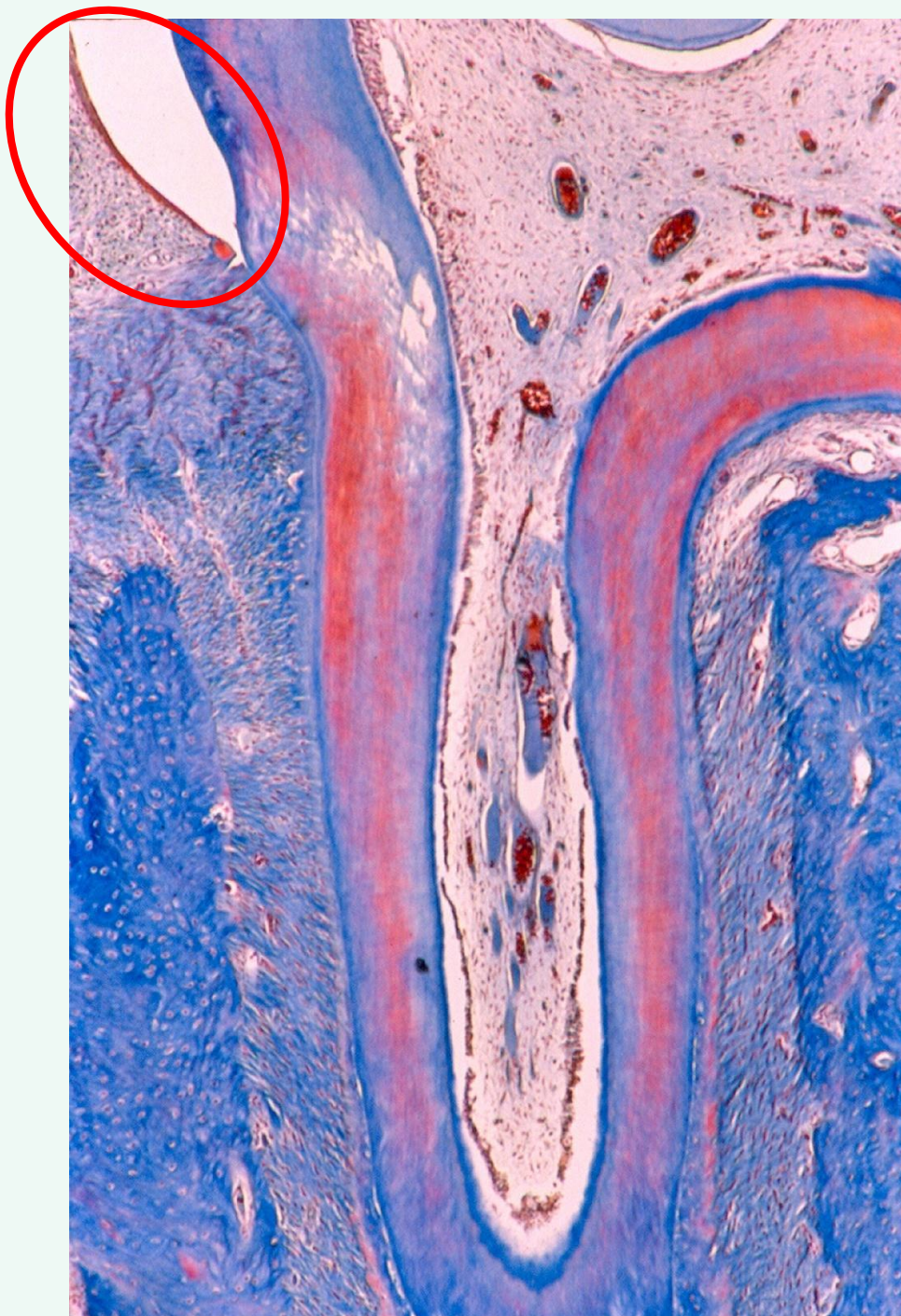


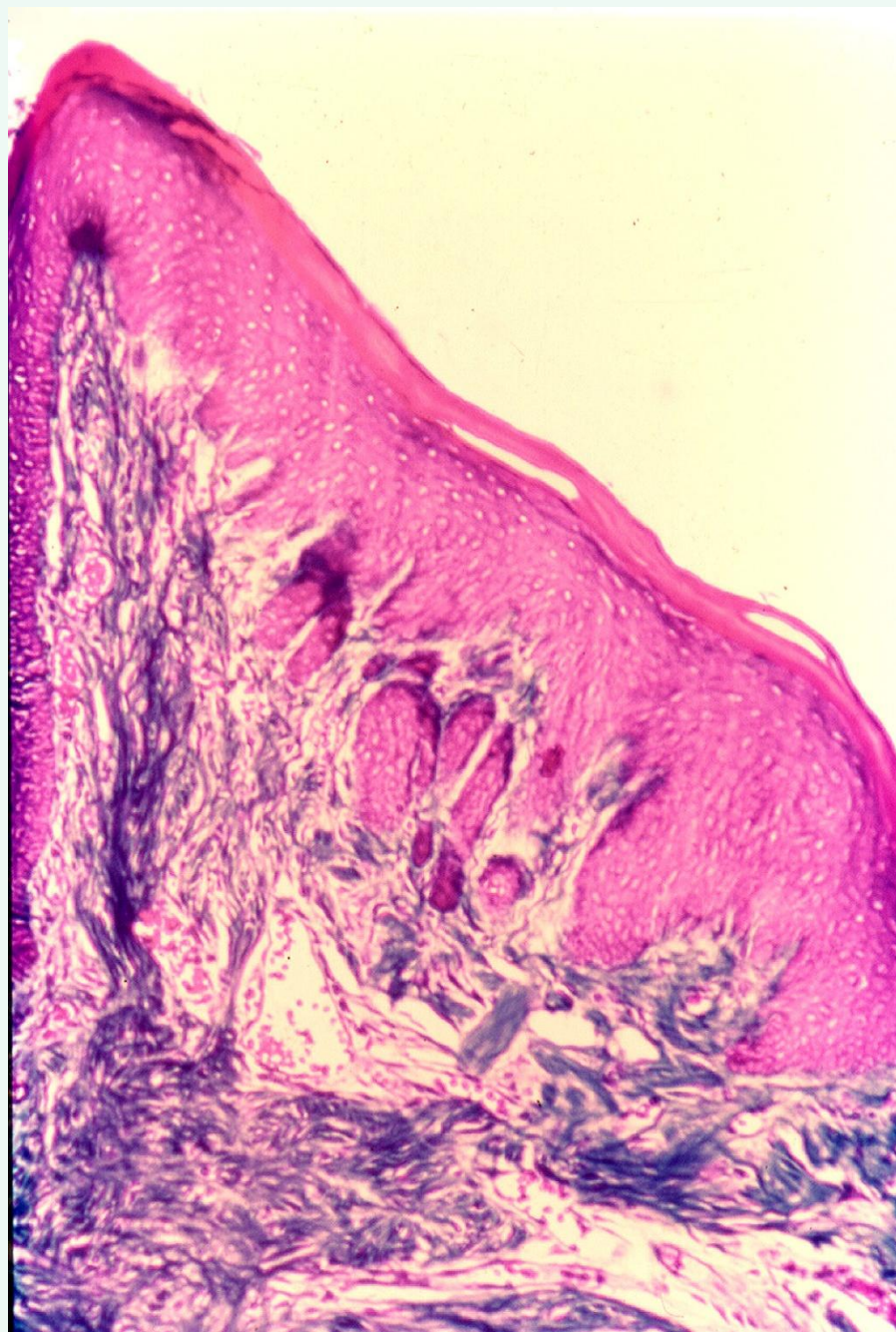
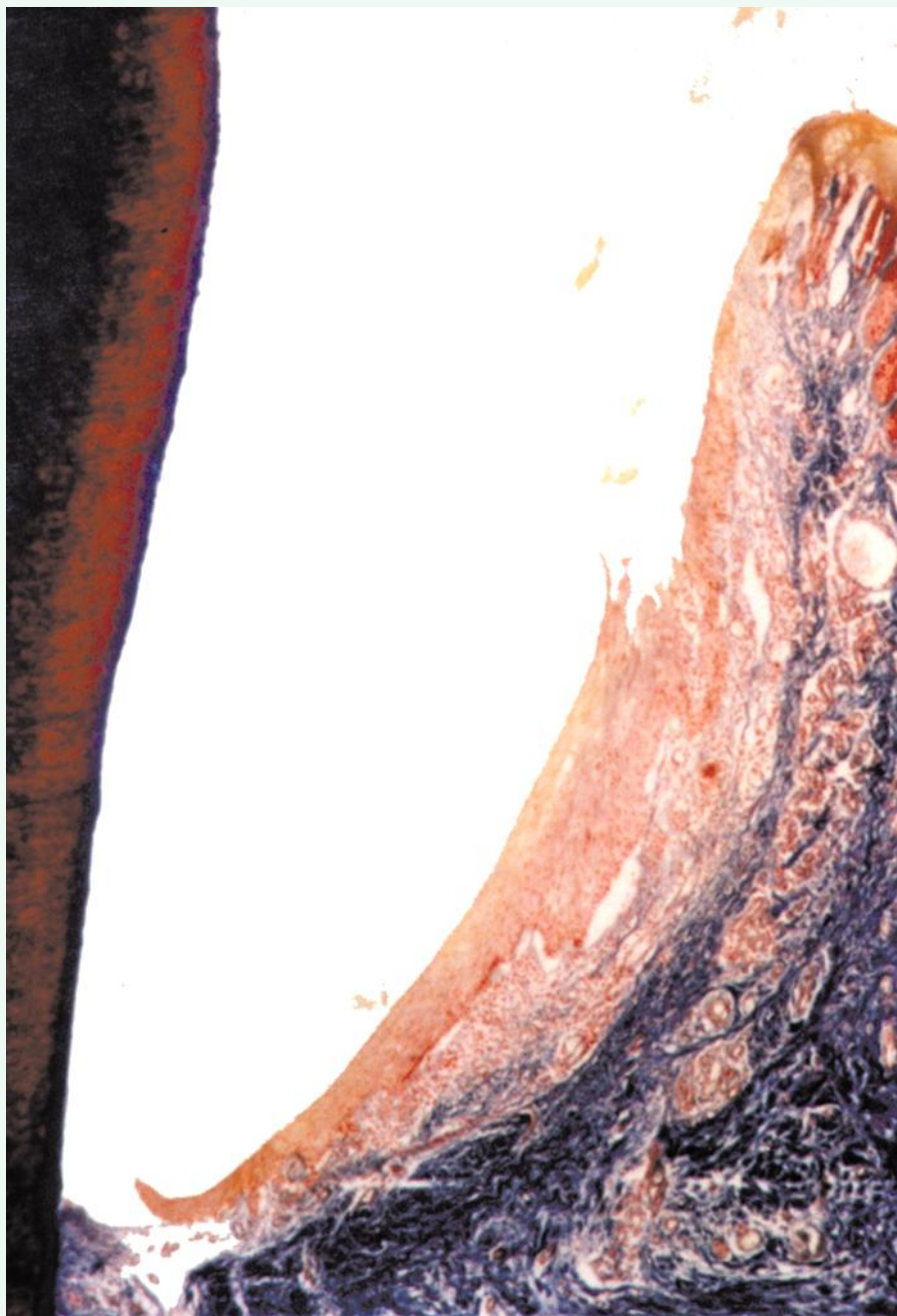
- Osso Basal
- Processo Alveolar
- Osso Alveolar

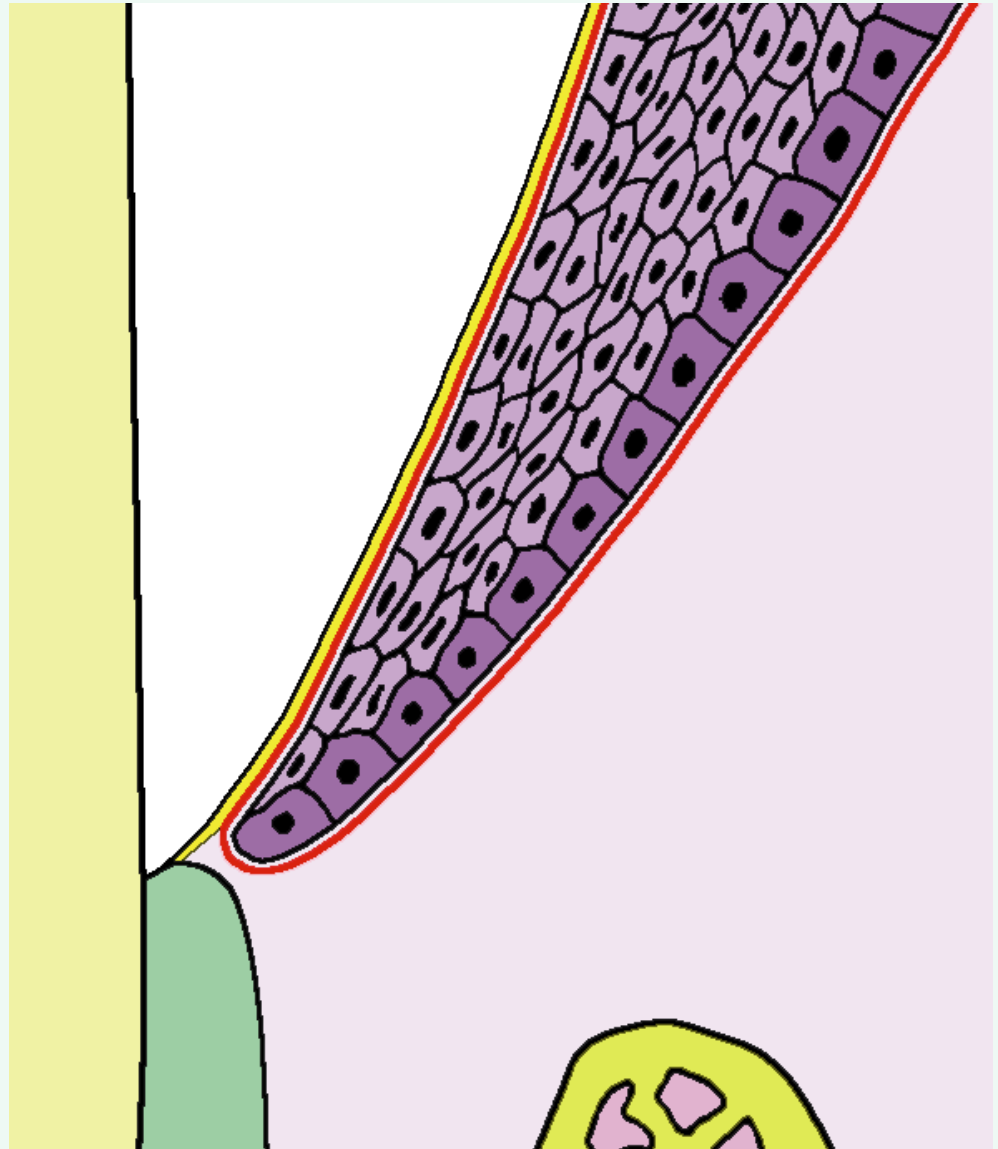
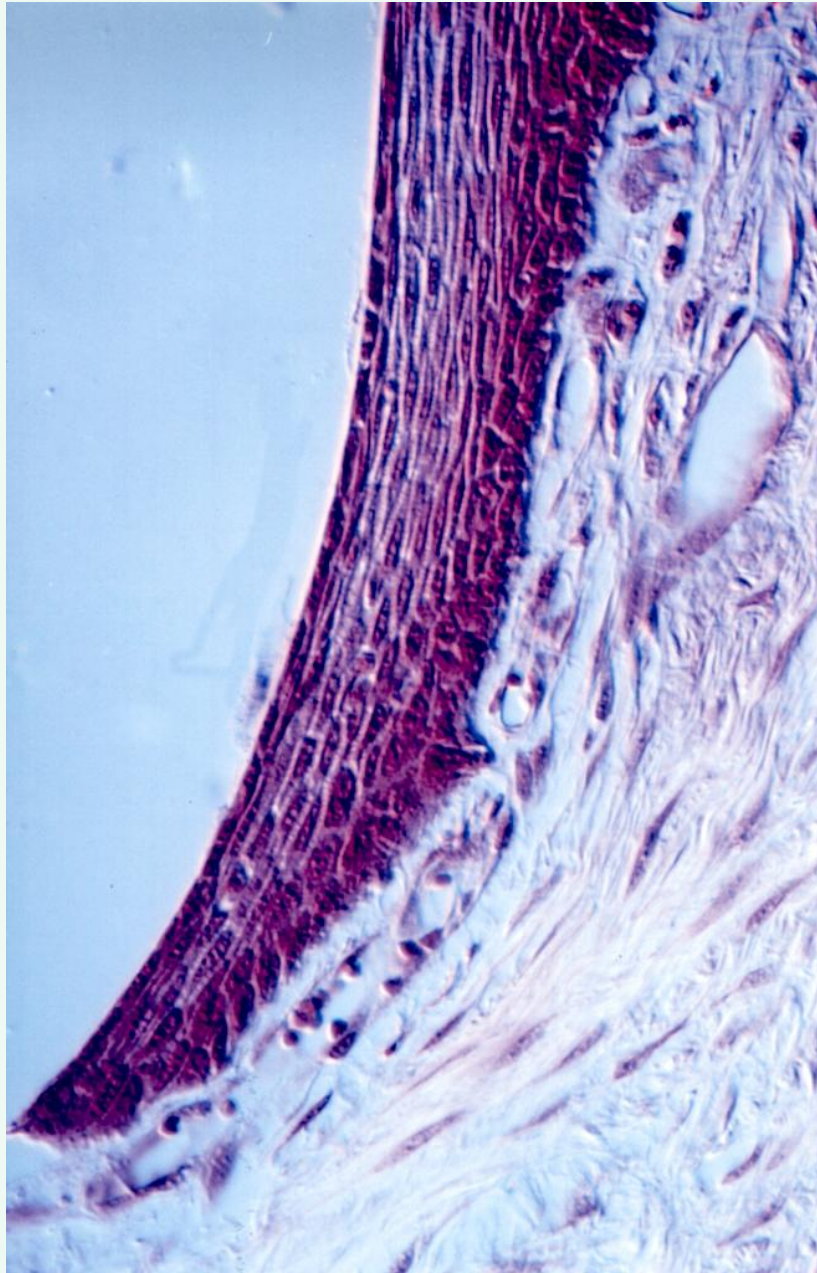
O Osso alveolar apresenta numerosas Fibras de Sharpey
(porção inserida dos feixes de fibras principais do ligamento periodontal)



Gengiva



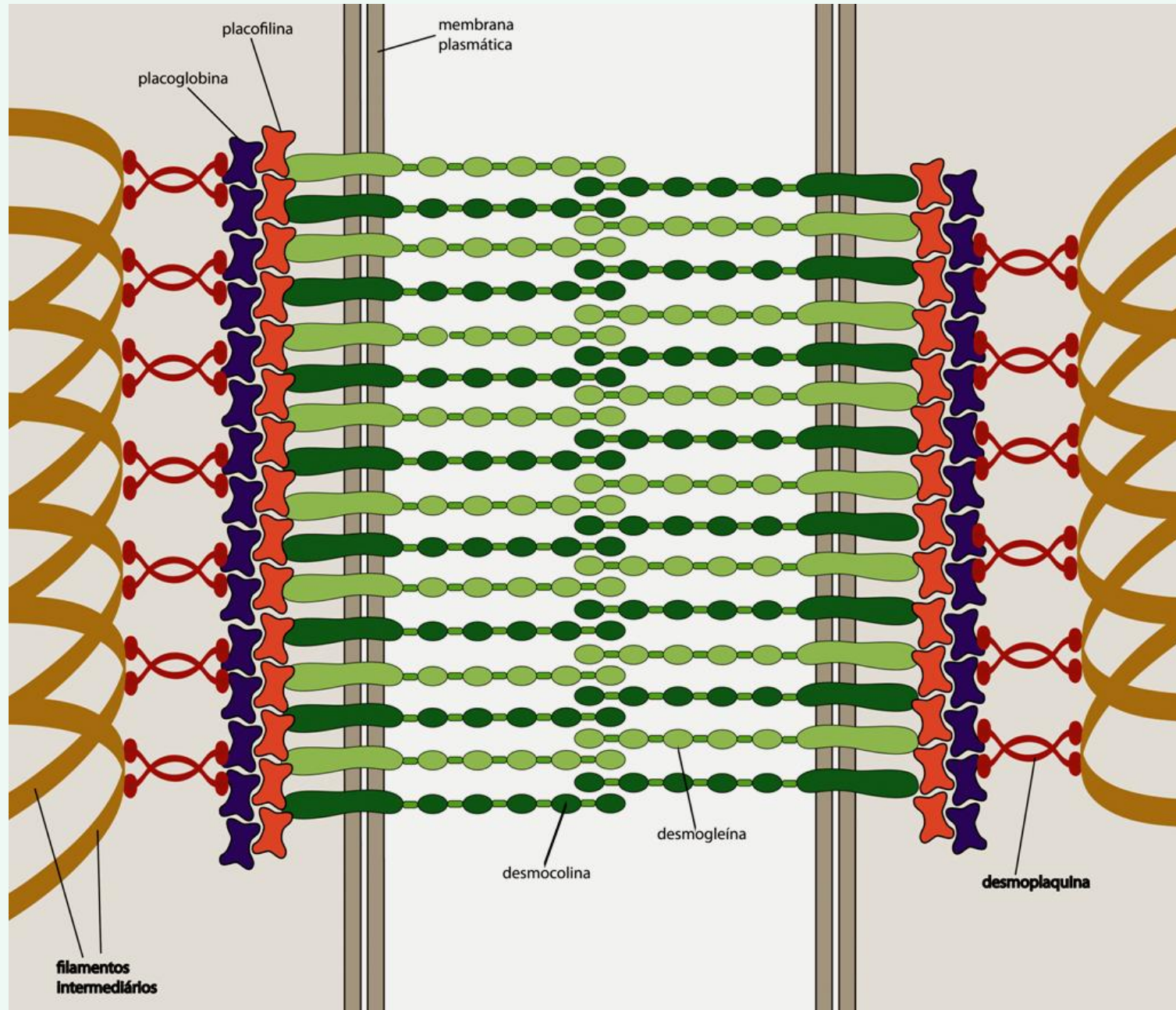


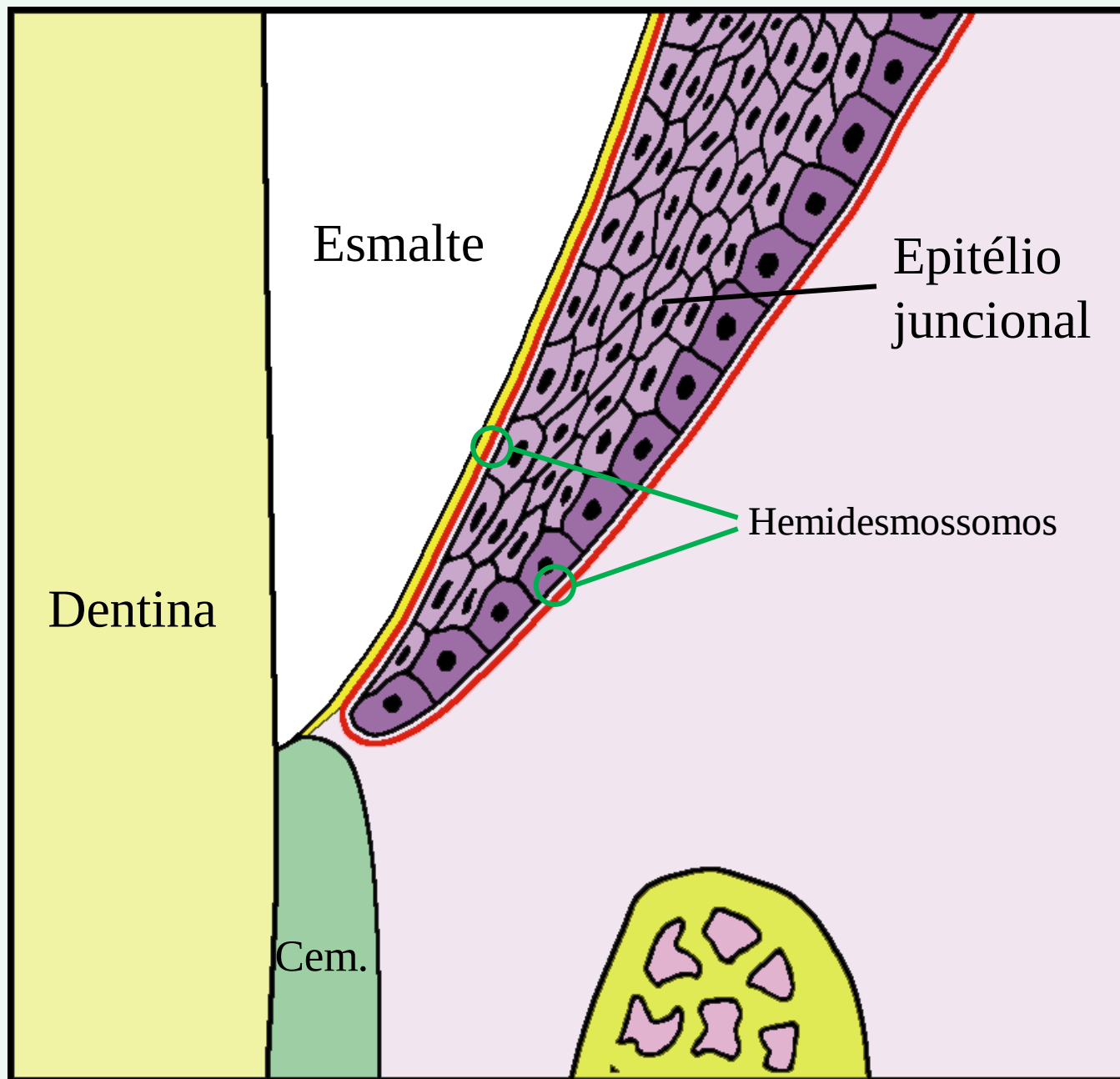


Existem numerosos desmossomos
entre as células do epitélio juncional

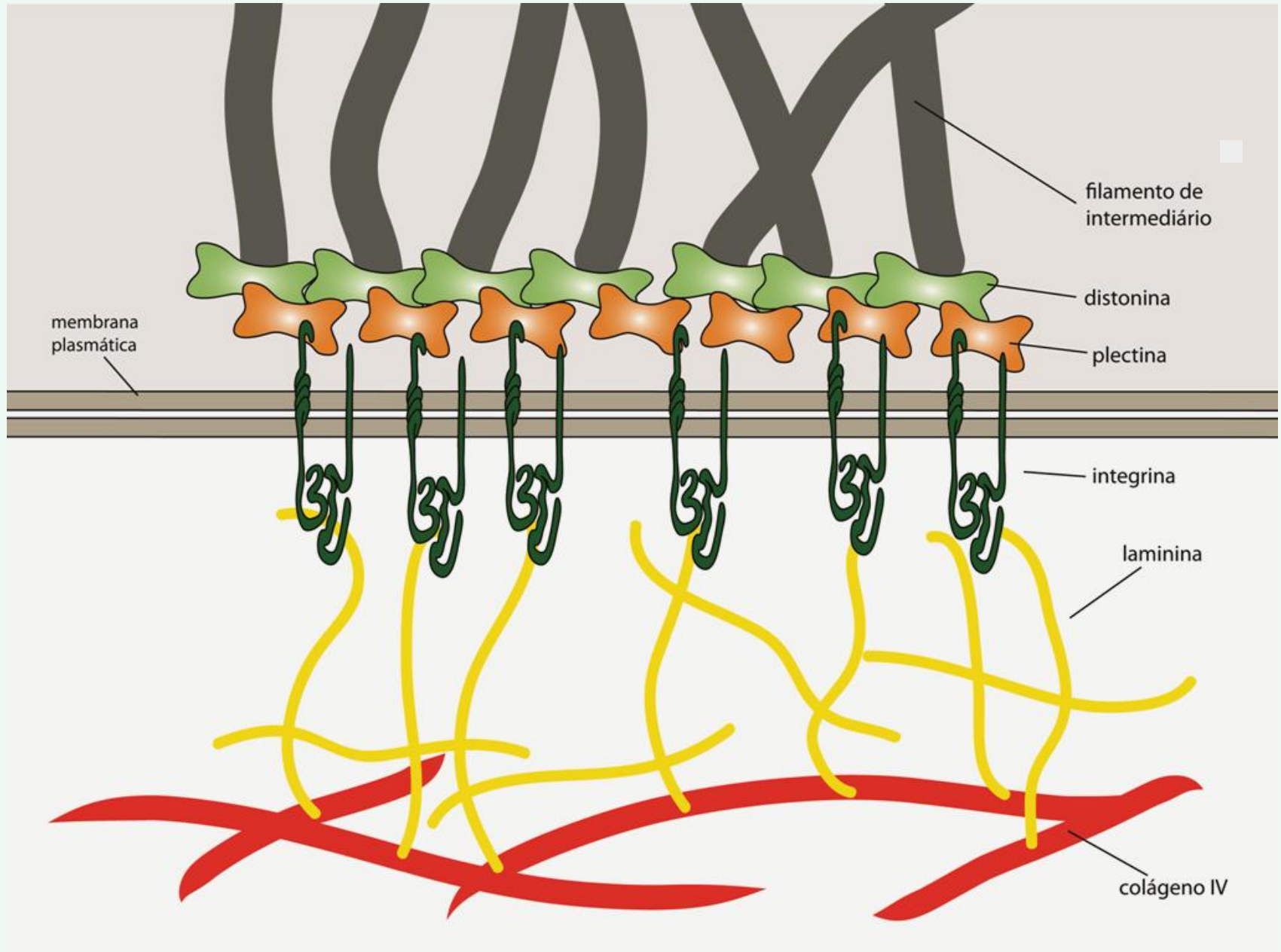


Composição dos Desmossomos

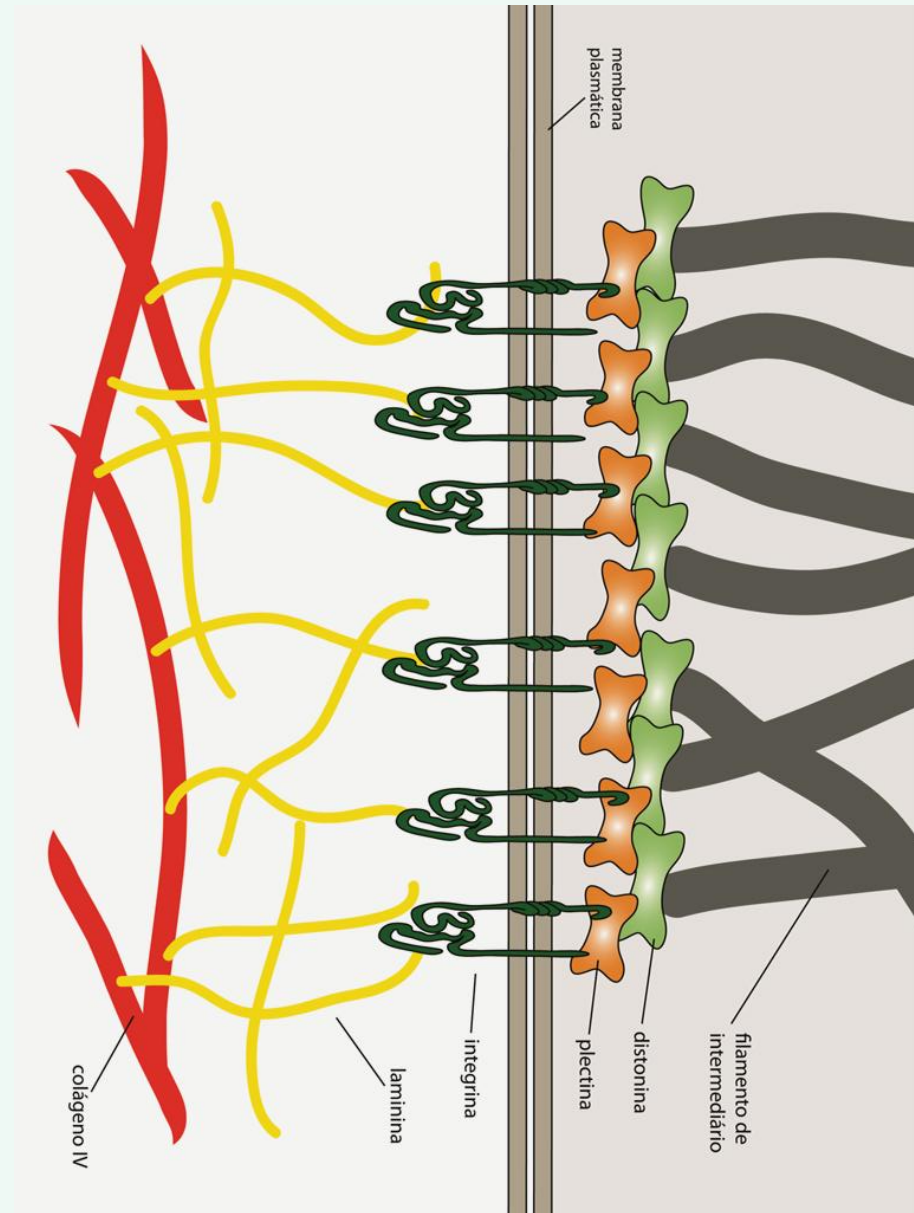
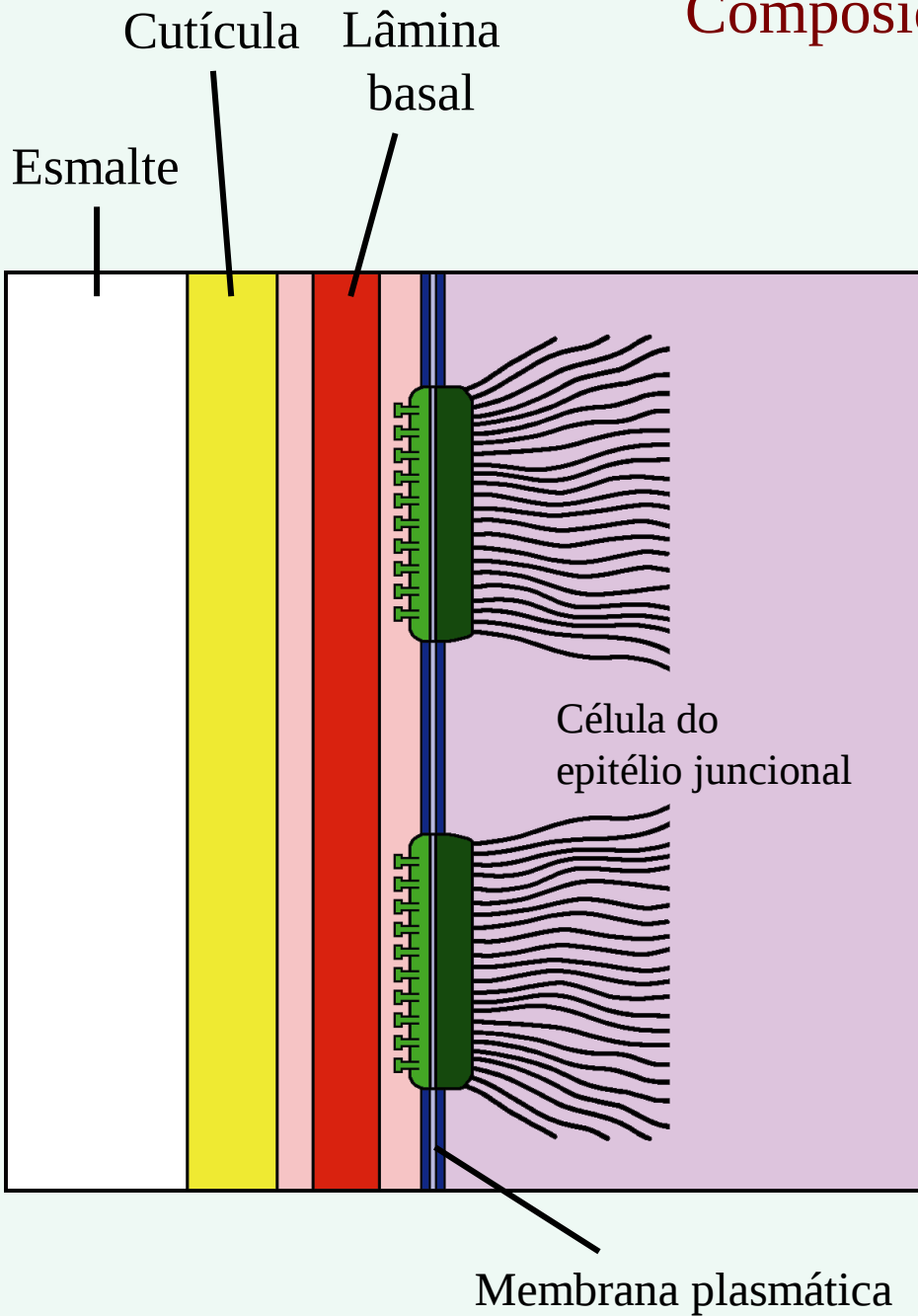




Composição dos Hemidesmosomos



Composição da Aderência Epitelial



Organização das Fibras Principais da Gengiva

