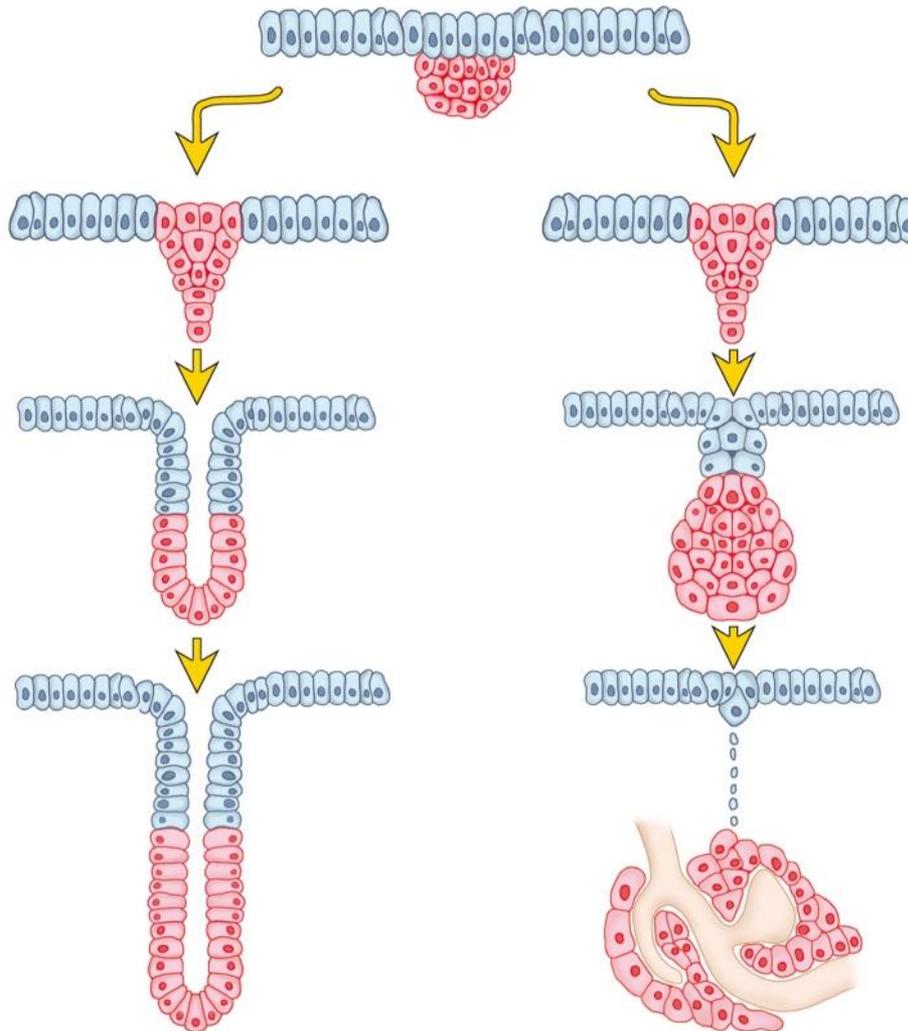
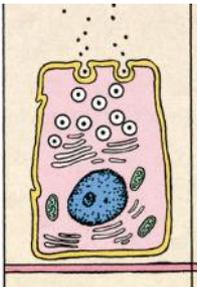


EPITELI SECERNENTI (GHIANDOLARI)

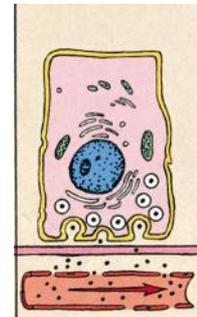
ESOCRINE

Mantengono la connessione con l'epitelio di origine (dotto escretore), riversano il secreto all'esterno dell'organismo o in una cavità interna comunicante con l'esterno. Le cellule sono polarizzate.



ENDOCRINE

Perdono la connessione con l'epitelio di origine, riversano il secreto nei vasi sanguigni. Le cellule non sono polarizzate.

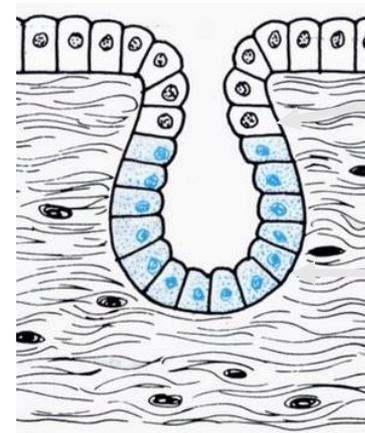
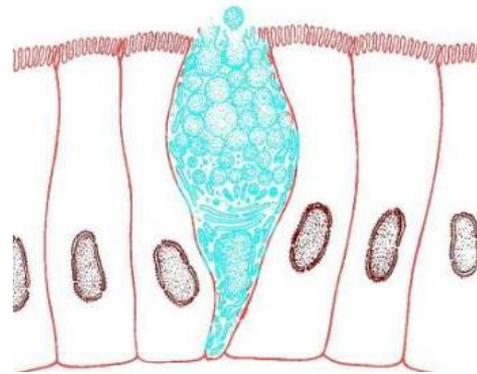


Le **GHIANDOLE ESOCRINE** si possono classificare in base al

numero di cellule

- **UNICELLULARI**

- **PLURICELLULARI**



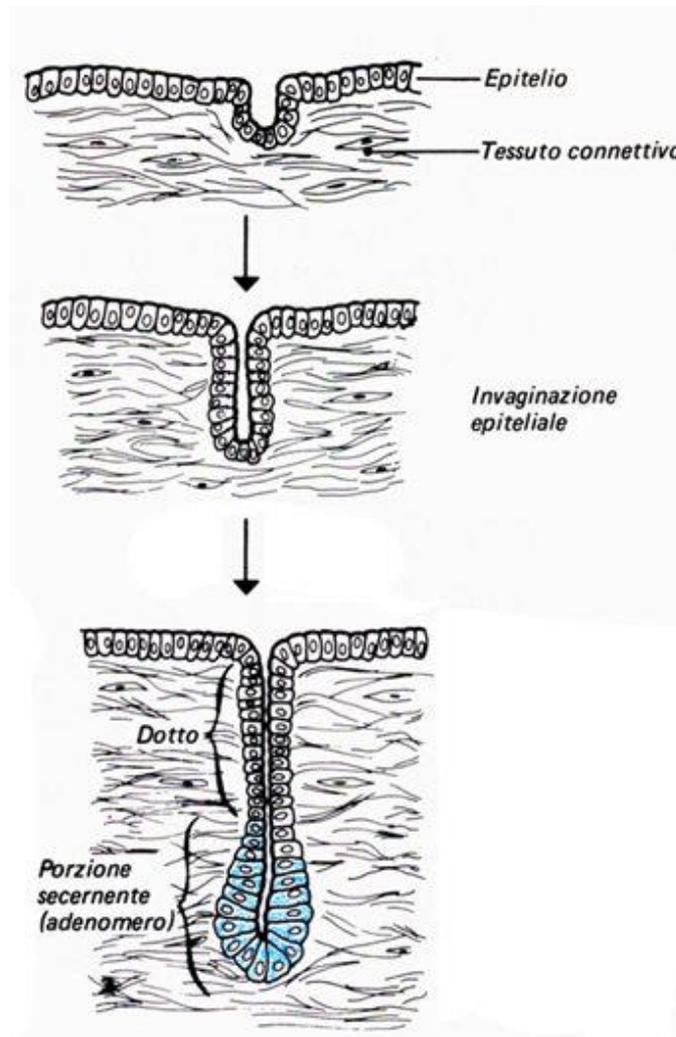
dotto escretore

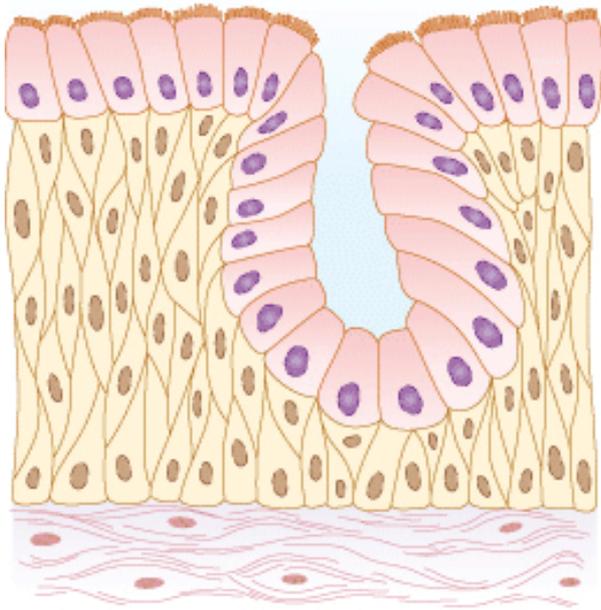
adenomero

Le ghiandole esocrine pluricellulari sono costituite da una porzione secernente, l'adenomero, e un dotto escretore che permette al secreto di essere riversato all'esterno.

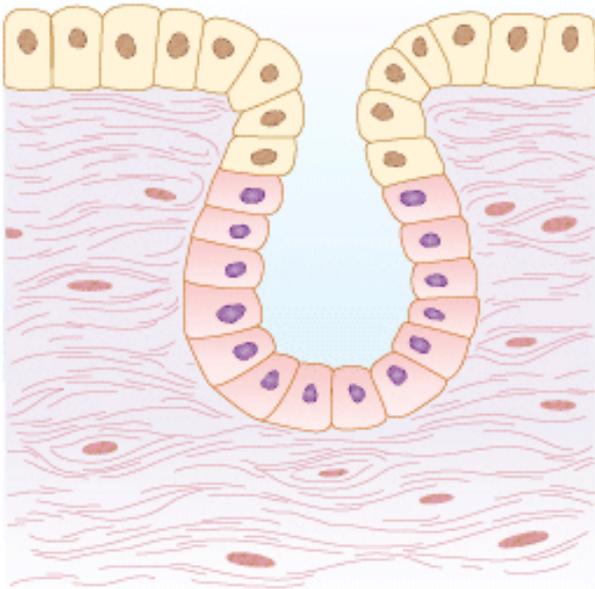
Adenomero +
dotto escretore
=
Parenchima

Tessuto connettivo
=
stroma



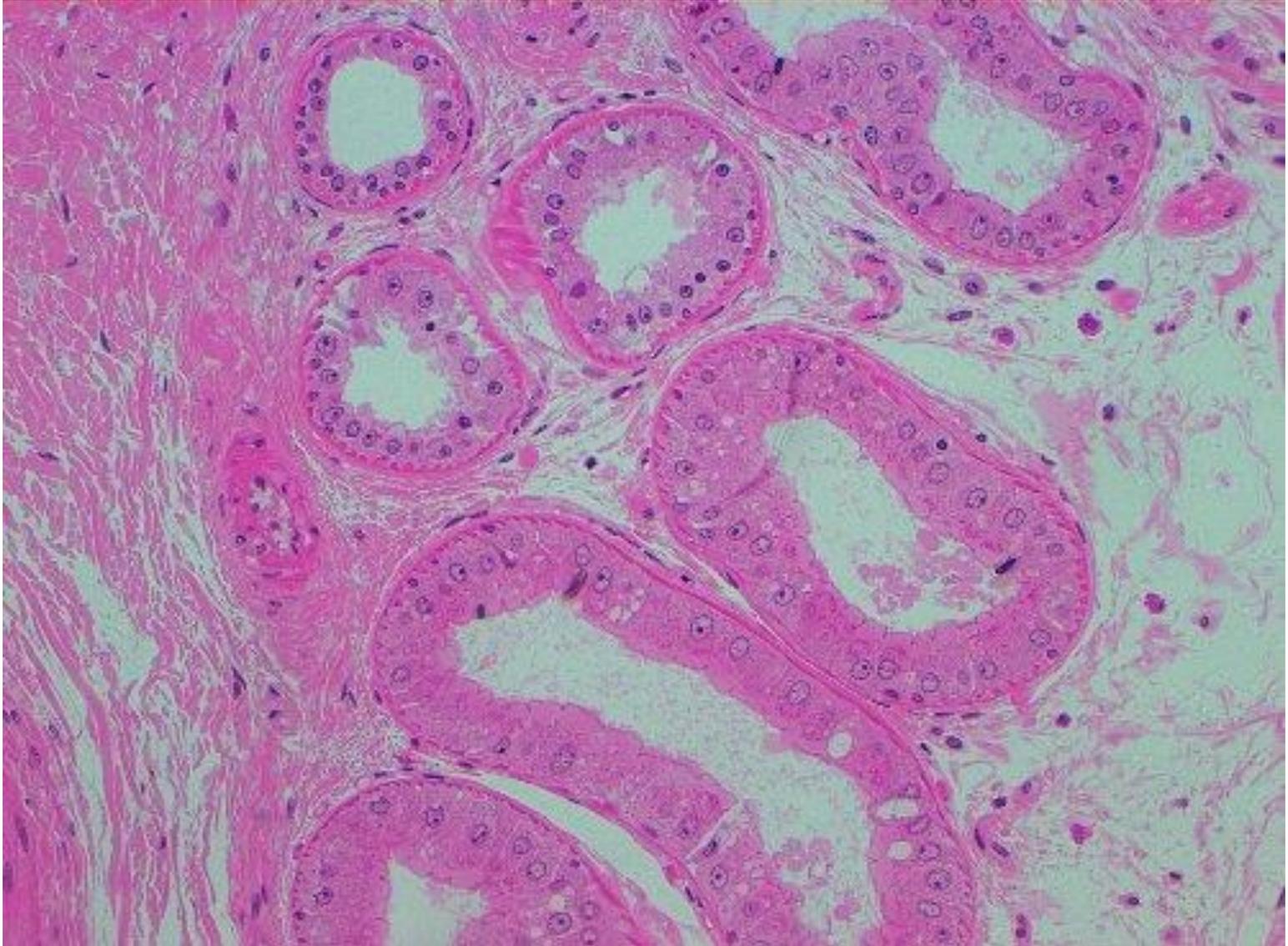


endoepiteliale

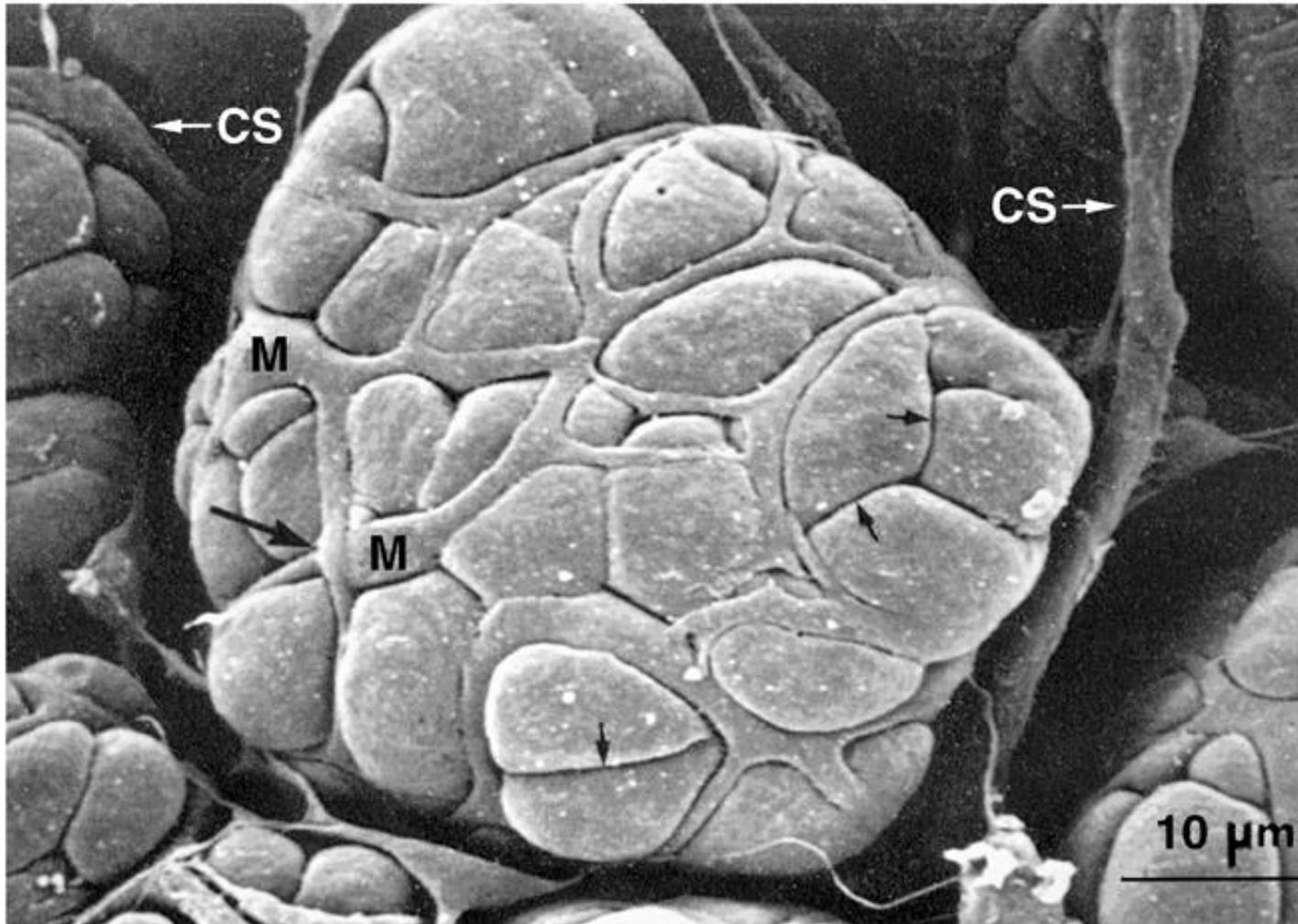


esoepiteliale

Ghiandole sudoripare circondate da cellule mioepiteliali



Cellule mioepiteliali nella gh. mammaria



Le GHIANDOLE ESOCRINE si possono classificare in base alla
forma dell'adenomero

• **TUBULARI**



• **ACINOSE**

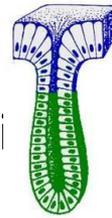


• **ALVEOLARI**



Le GHIANDOLE ESOCRINE si possono classificare in base alla *complessità dell'organizzazione*

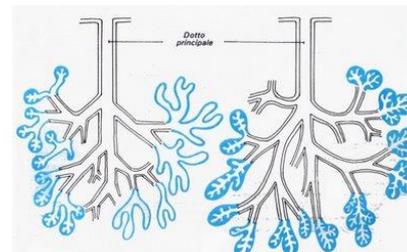
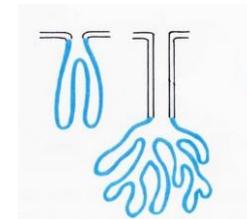
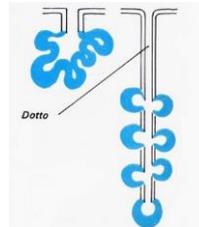
- **Semplici:** 1 adenomero, 1 dotto escretore



- **Ramificate:** più adenomeri confluenti dotto es



- **Composte:** più adenomeri ed un sistema ramificato di dotti



FORMA ADENOMERO

TUBULARI

ALVEOLARI

ACINOSE

COMPLESSITA'

SEMPLICI

RAMIFICATE

COMPOSTE



alveolare



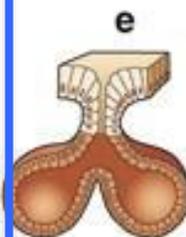
acinosa



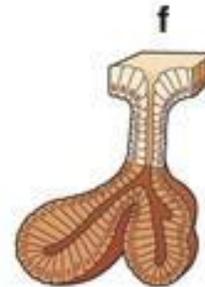
tubulare



Tubulo-glomerulare



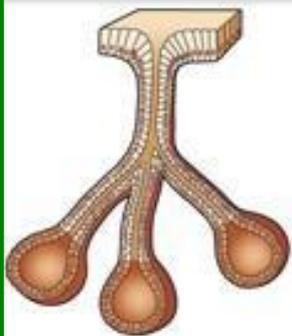
e



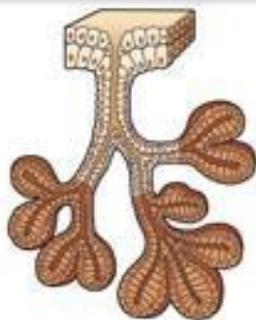
f



g



h



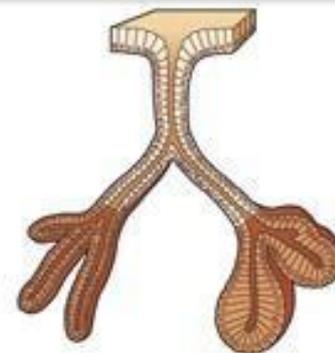
i



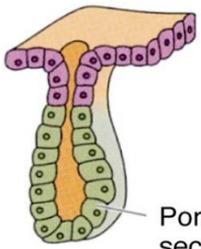
l



m

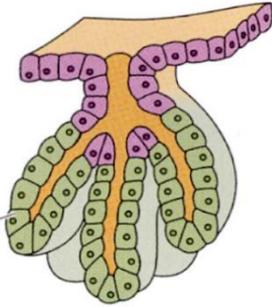


n

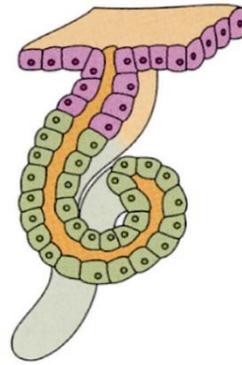


Porzione secretoria

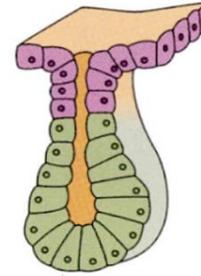
Tubulare semplice



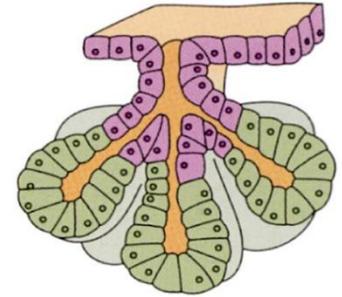
Tubulare ramificata



Tubulare semplice a gomitolo

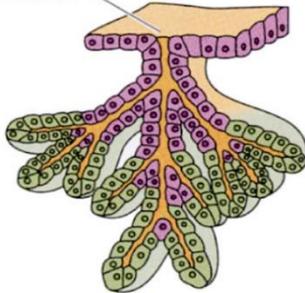


Acinosa semplice

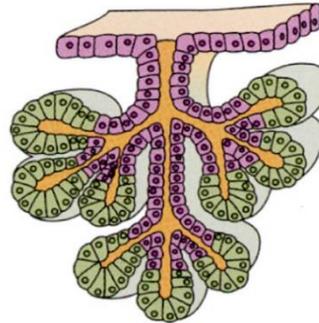


Acinosa ramificata

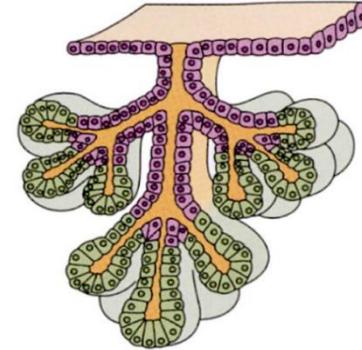
Condotto



Tubulare composta



Acinosa composta



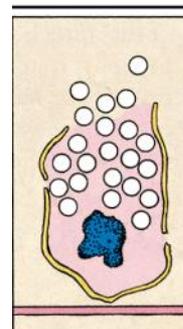
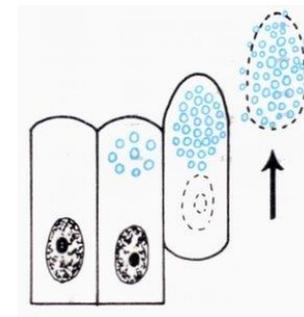
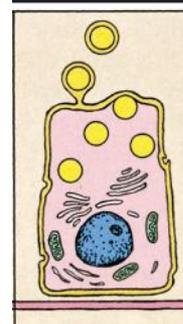
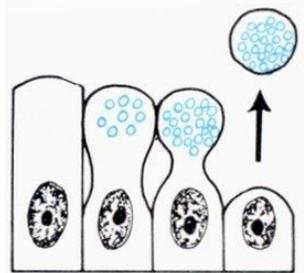
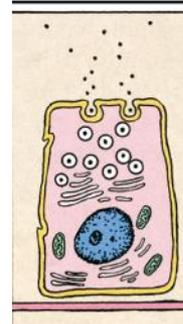
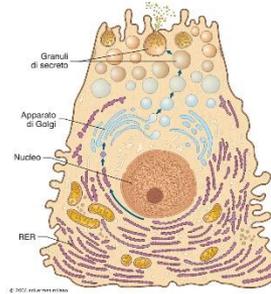
Tubuloacinosa composta

Le GHIANDOLE ESOCRINE si possono classificare in base alla *modalità di secrezione*

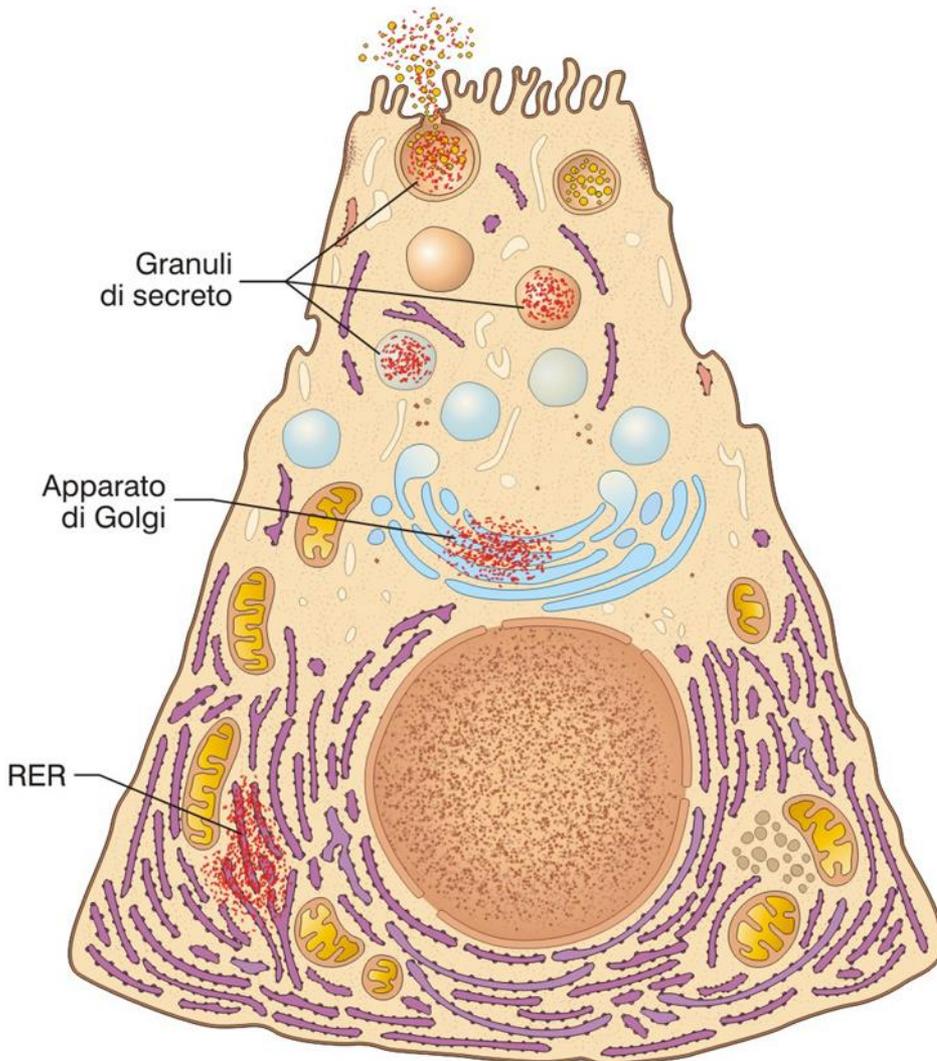
• Merocrine

• Apocrine

• Olochrine



Merocrina: pancreas esocrino



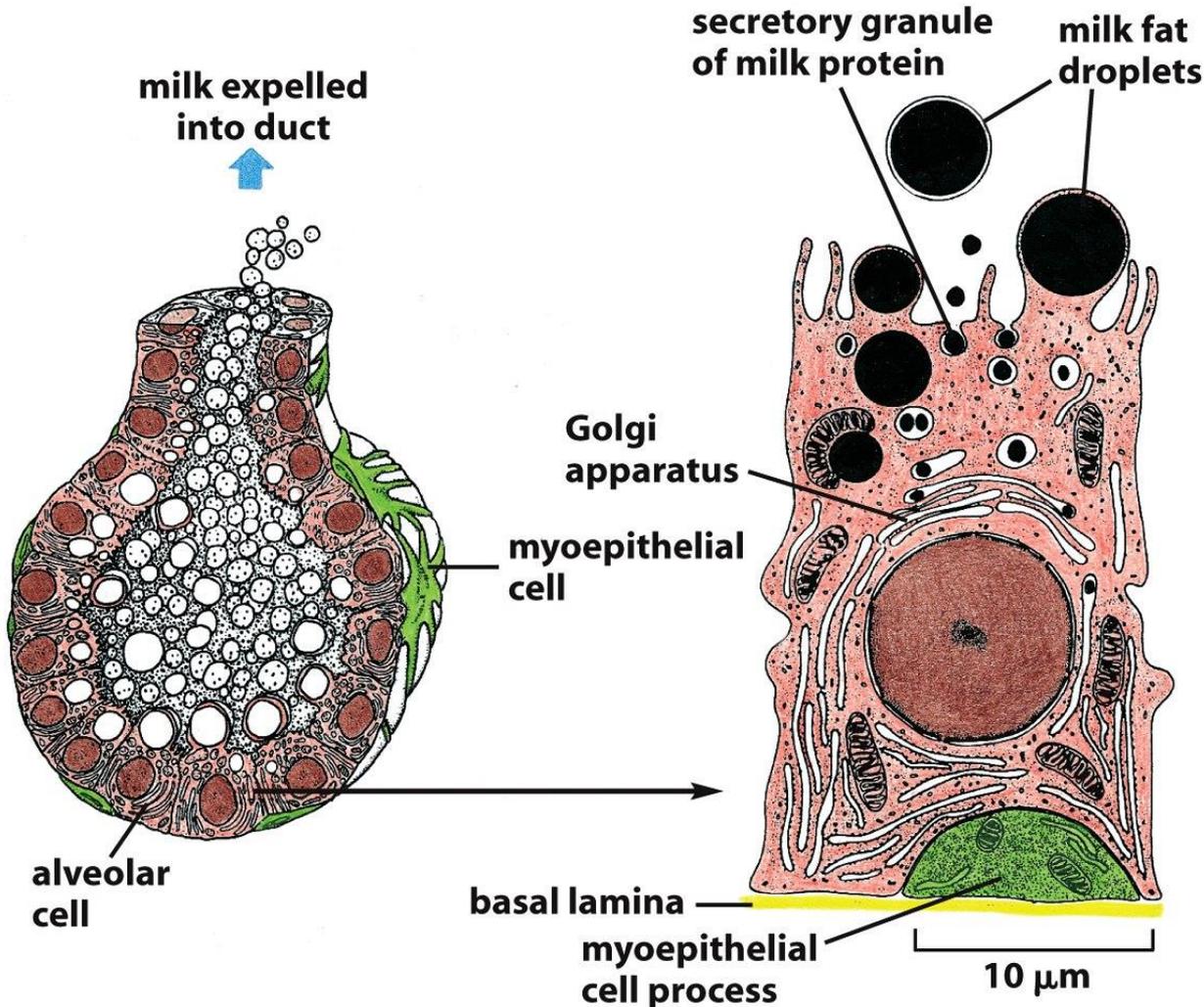
Il secreto:

Si accumula in **granuli di secrezione**
Viene liberato per **esocitosi**

È la modalità più diffusa

Apocrina: ghiandola mammaria

(solo per la componente lipidica del secreto)

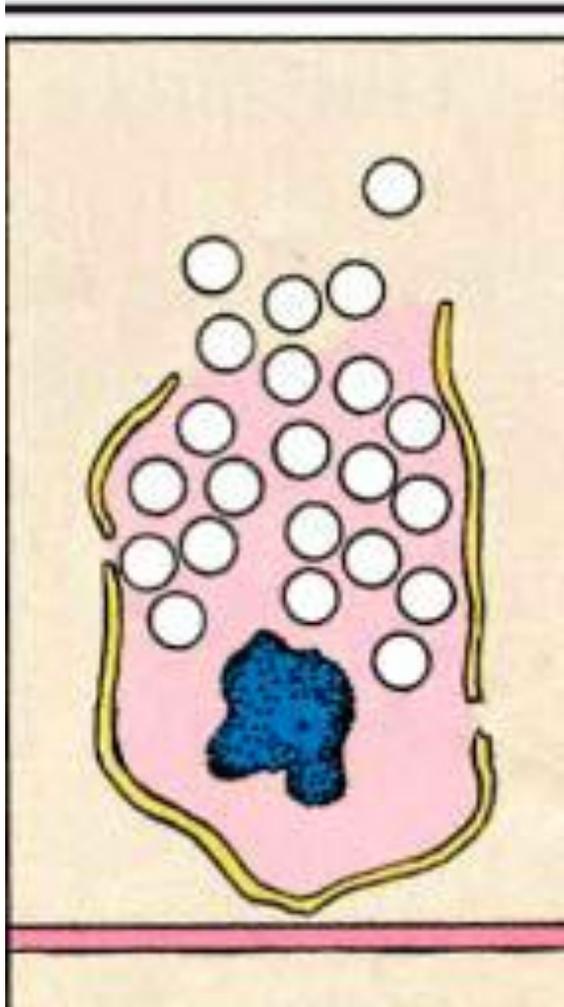


Il secreto è di natura lipidica

Si accumula nella porzione apicale della cellula

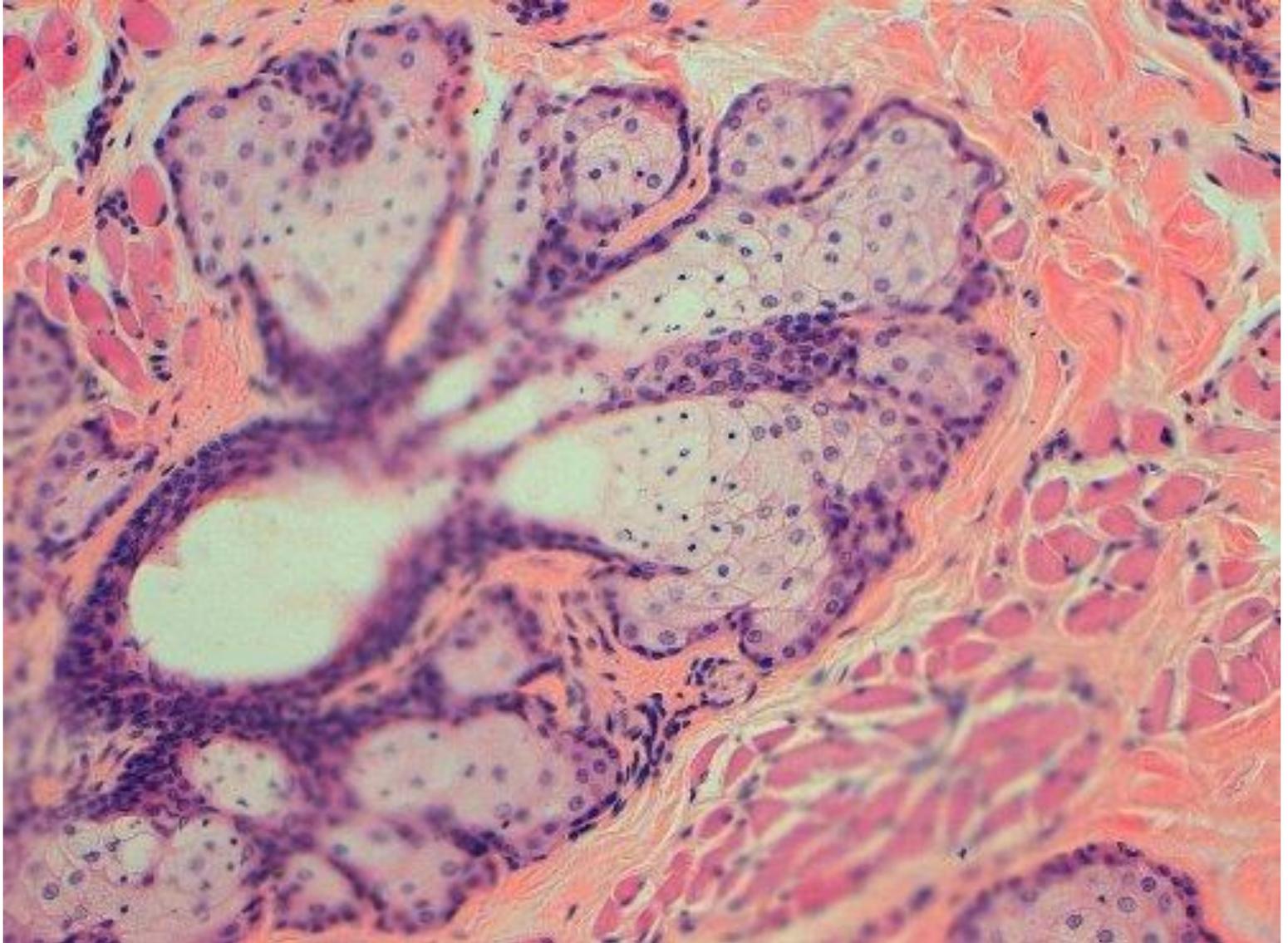
All'atto della secrezione la goccia lipidica viene circondata da membrana plasmatica, che così diventa parte integrante del prodotto di secrezione

Olocrina: ghiandole sebacee



Il secreto è di natura lipidica
Si accumula sotto forma di goccioline
lipidiche libere nel citoplasma
La cellula va incontro a morte cellulare
programmata; si verifica la
disgregazione dell'intera cellula i cui
residui entrano a far parte del secreto

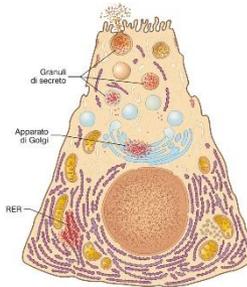
Ghiandola sebacea



Le GHIANDOLE ESOCRINE si possono classificare in base alla *natura del secreto*

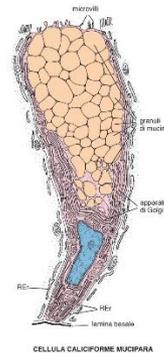
Secrezione **sierosa**: secreto fluido contenente enzimi

• Secrezione **mucosa**: secreto vis



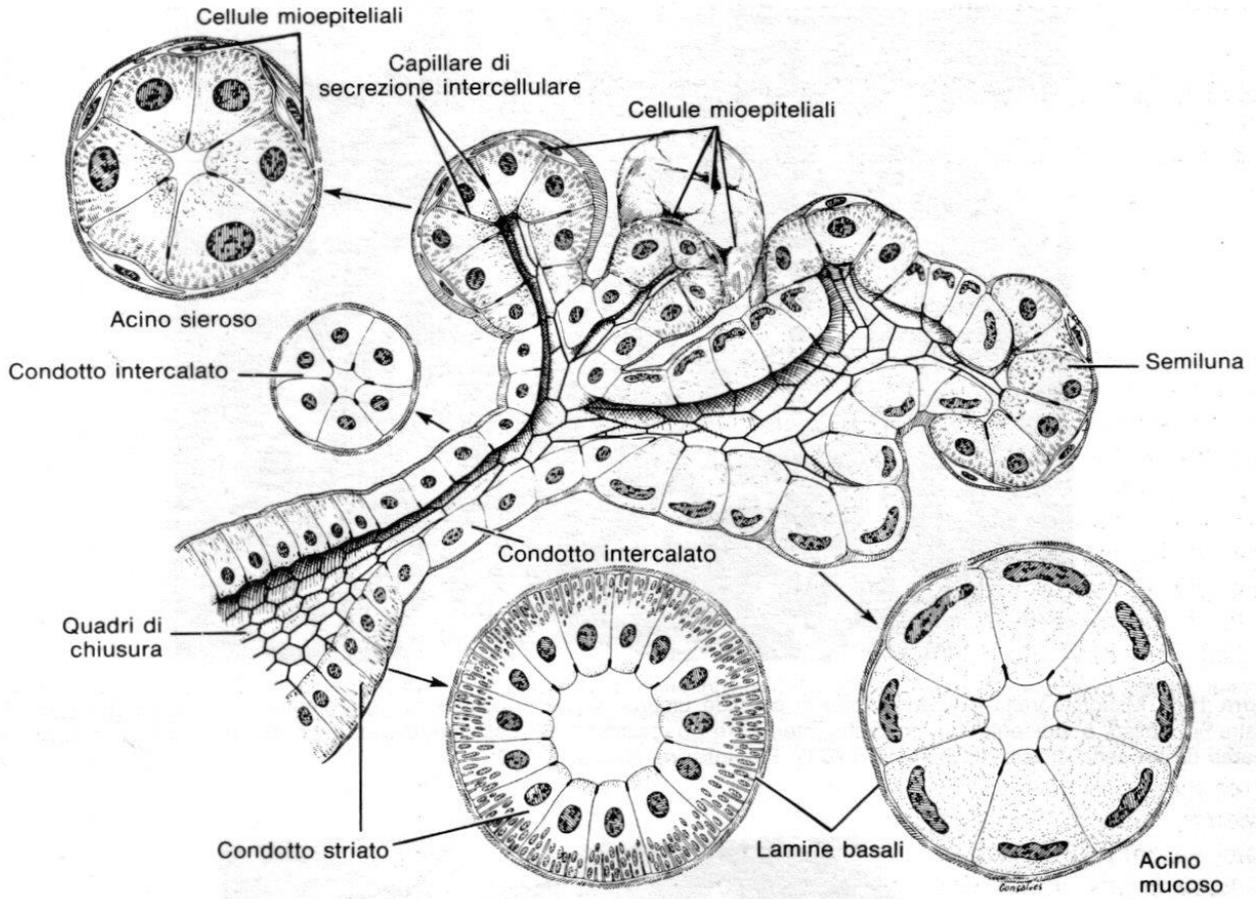
• Secrezione **mucosa**: secreto viscoso contenente mucopolisaccaridi

• Secrezione **mista**: cellule a secrezione sierosa

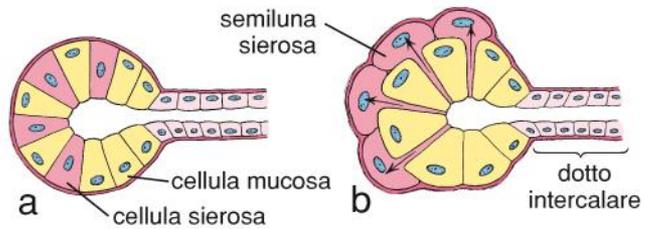


+ cellule a secrezione mucosa

Ghiandola a secrezione mista (salivare)



CONGELAMENTO RAPIDO FISSAZIONE CONVENZIONALE

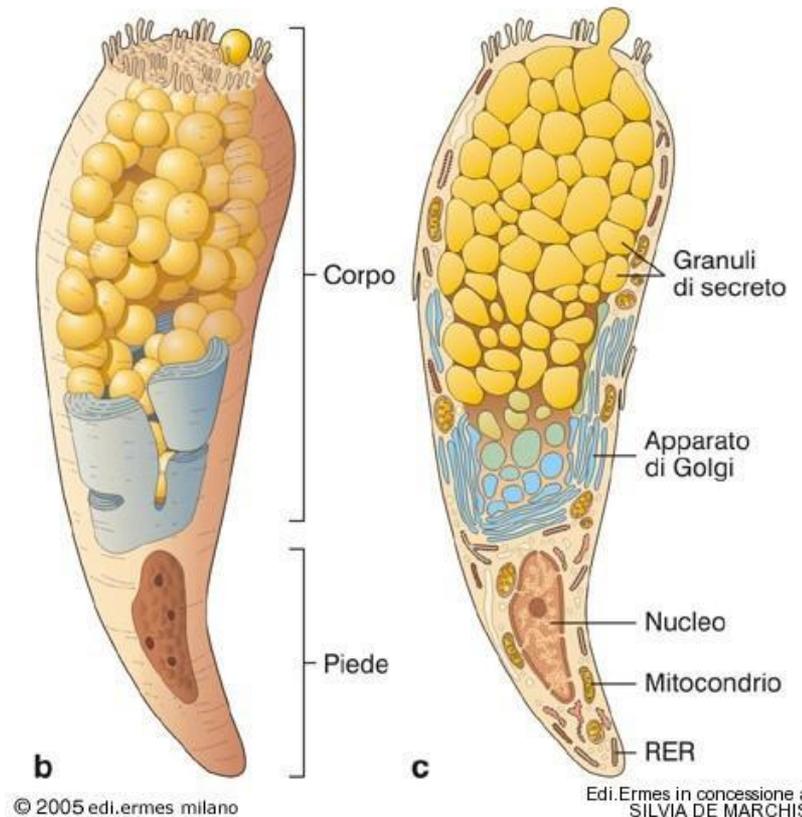


Cellula mucipara caliciforme ghiandola unicellulare

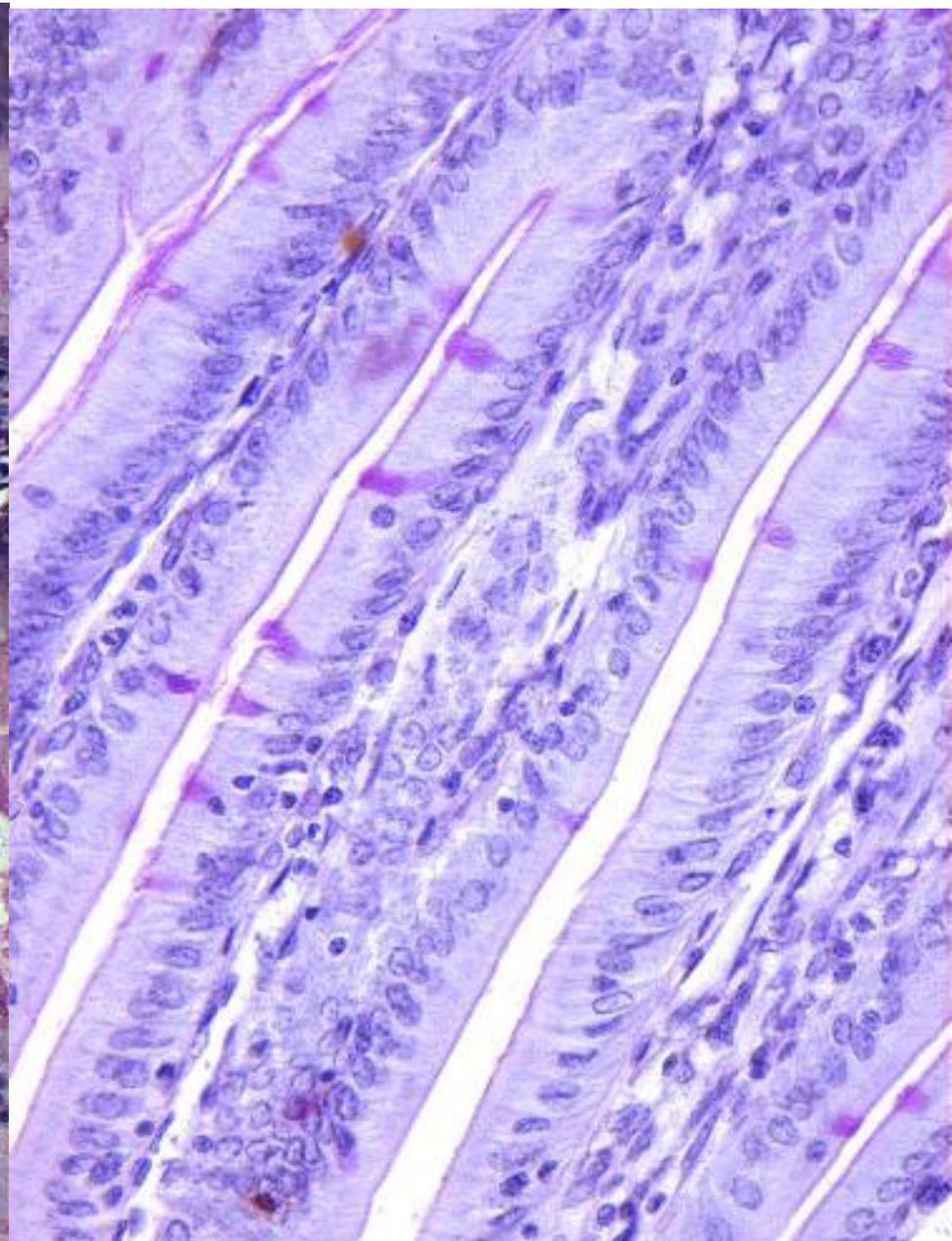
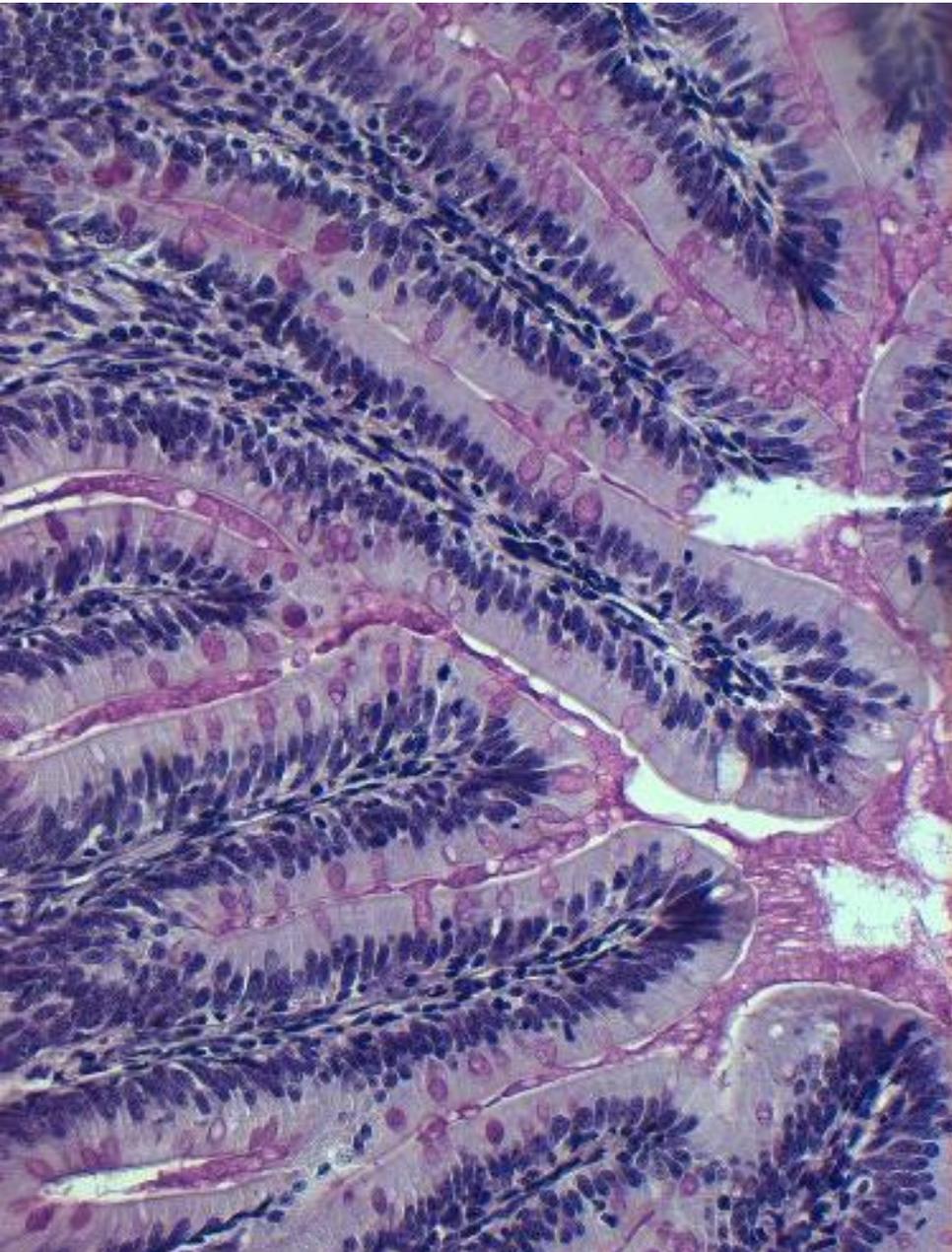
Secerne mucina
(merocrina)

Tratto digerente
Tratto respiratorio

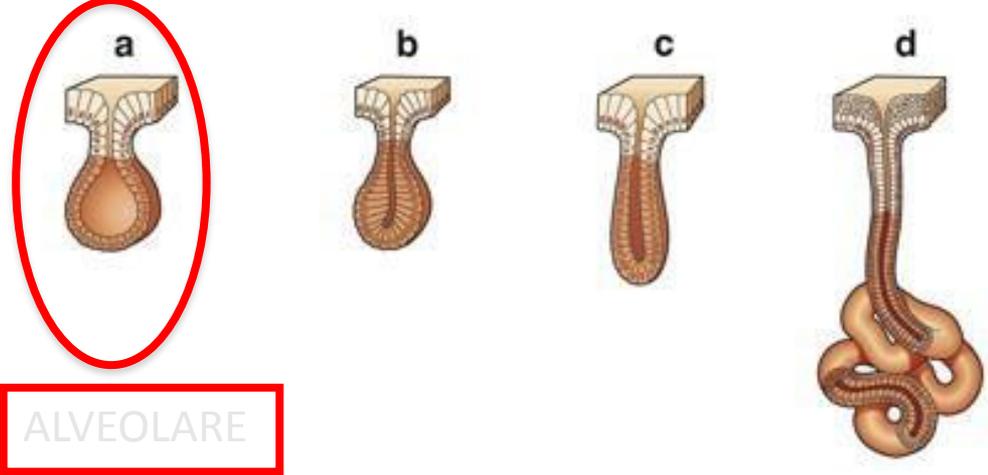
Vita media 3-4 gg



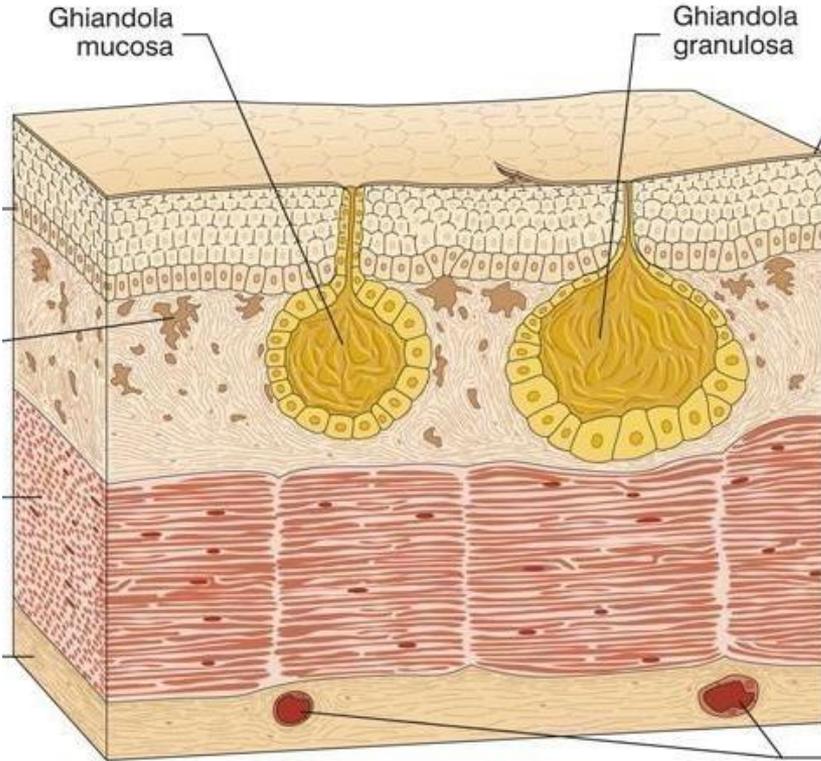
Intestino tenue (reazione PAS)



Esempi di ghiandole esocrine semplici:



ALVEOLARE

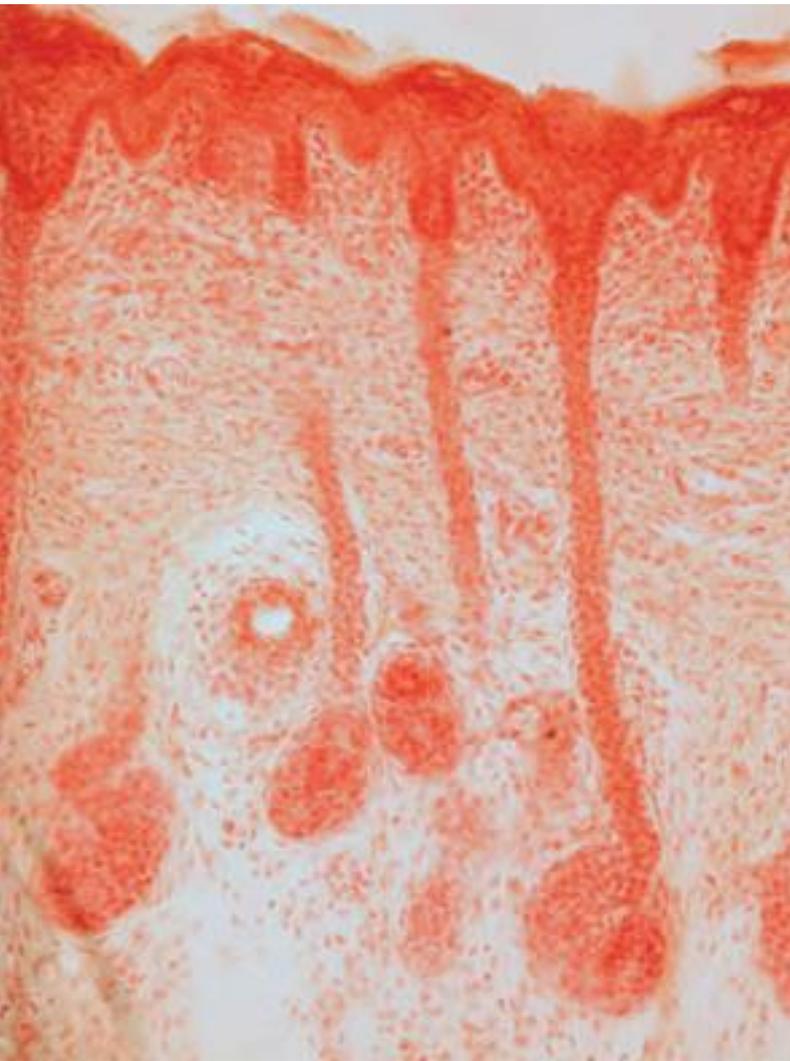
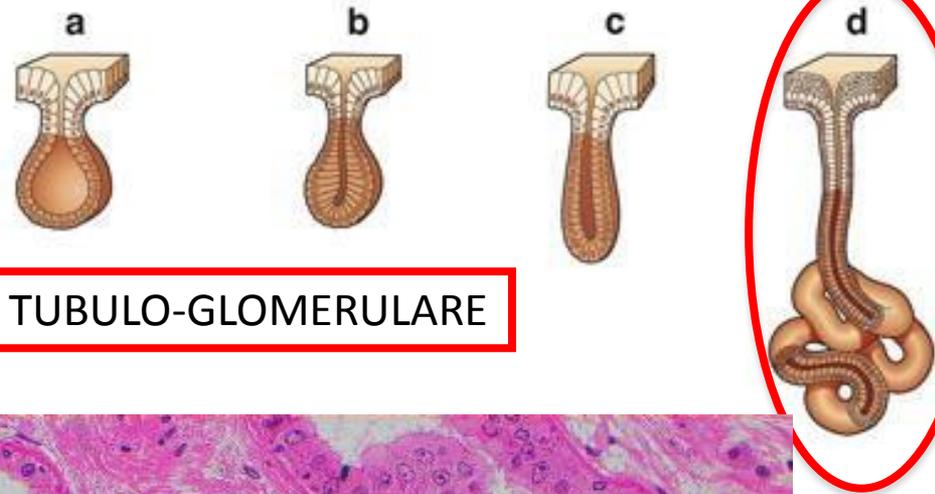


Ghiandole mucose e sierose Cute Anfibio

ilano

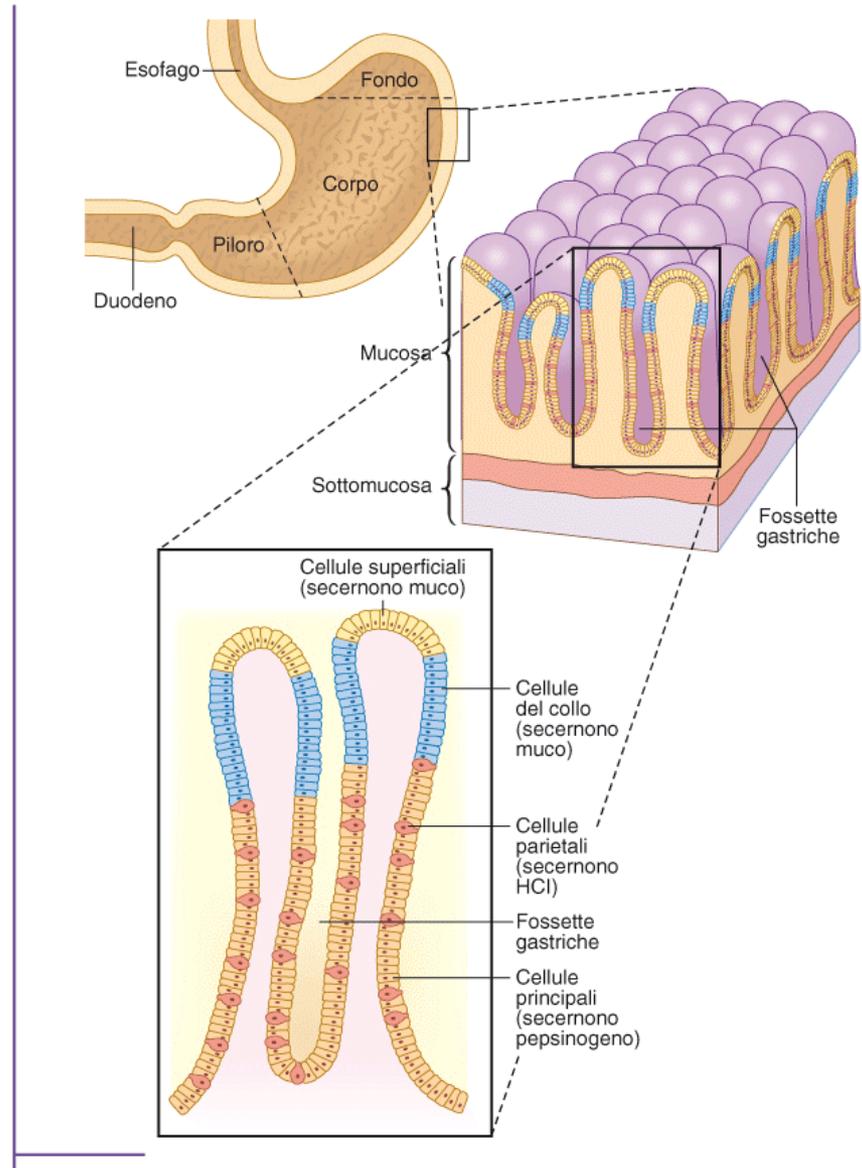
(GHIANDOLA intraparietale extraepiteliale)

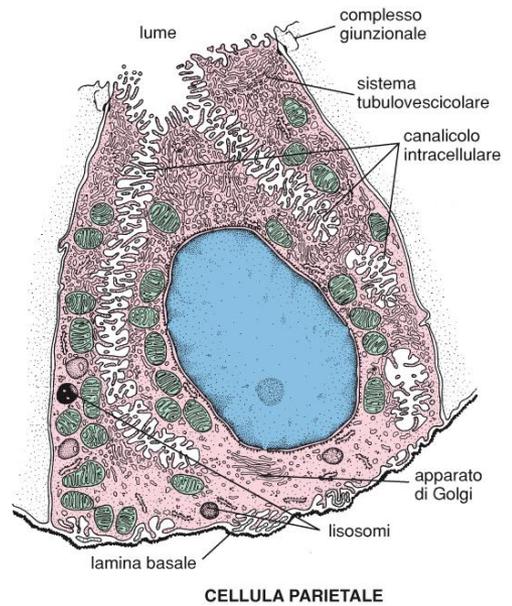
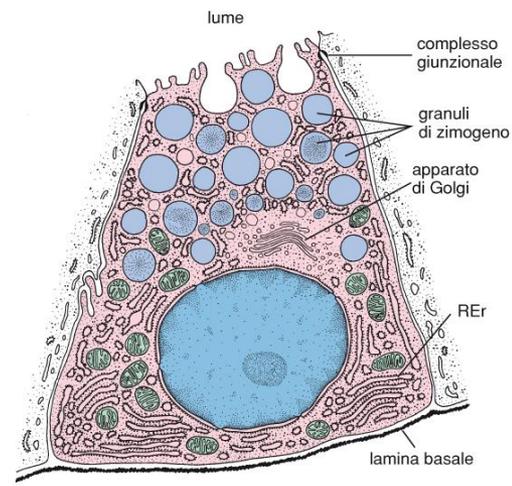
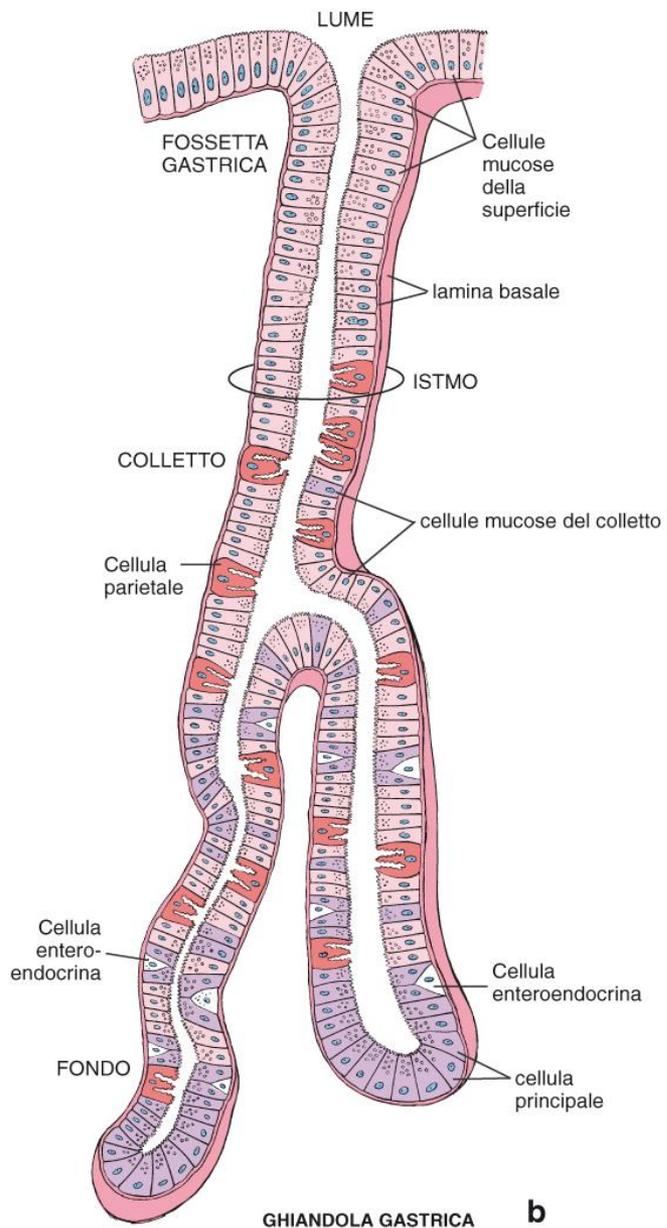
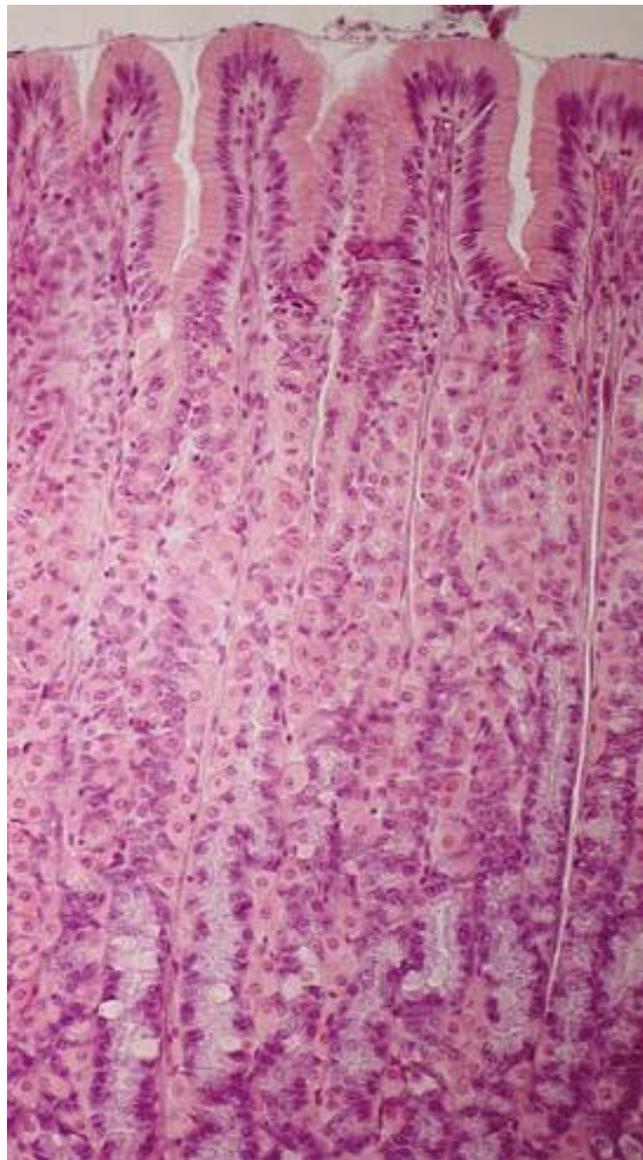
Esempi di ghiandole esocrine semplici:



Ghiandola **sudoripara** della cute (Mammifero)
(Merocrina) → regola temperatura corporea

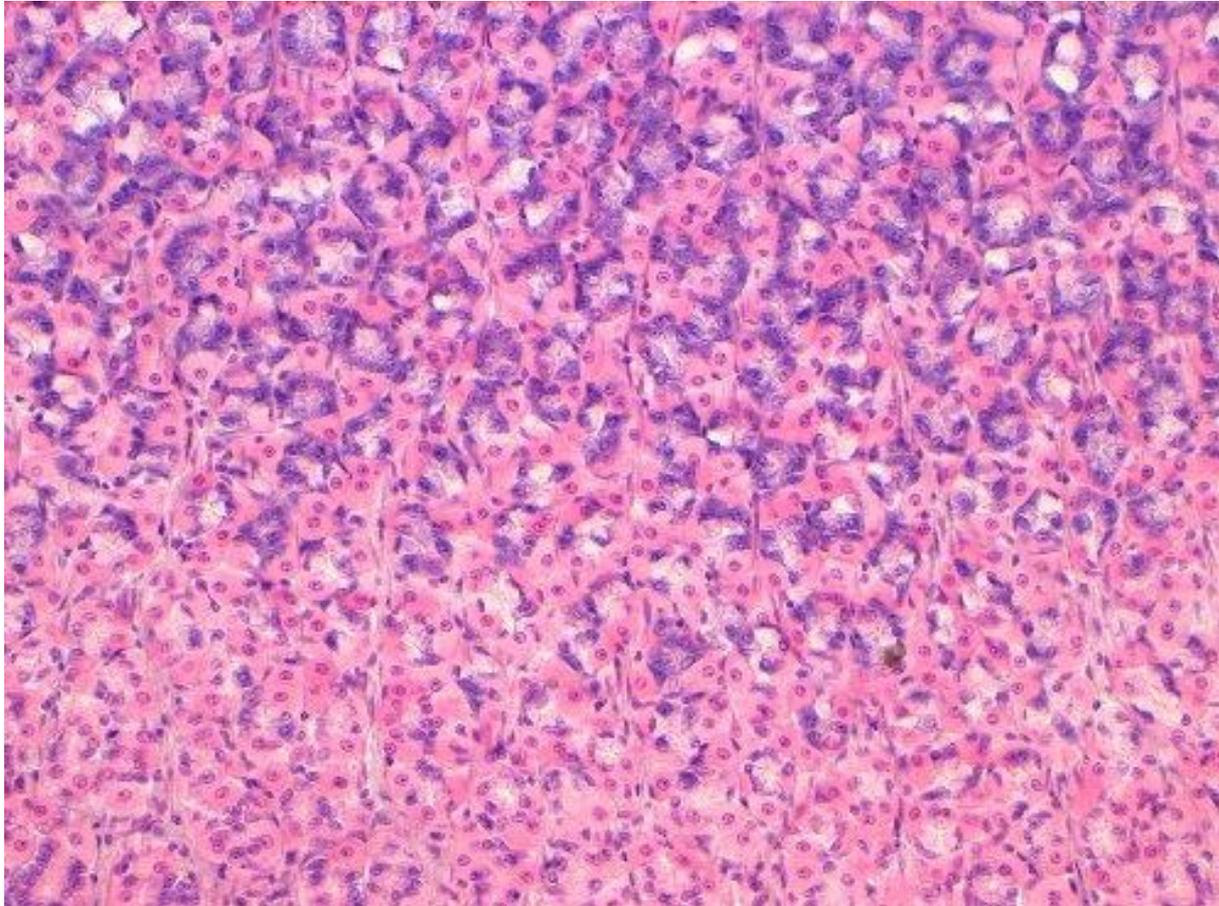
Ghiandole del fondo dello stomaco



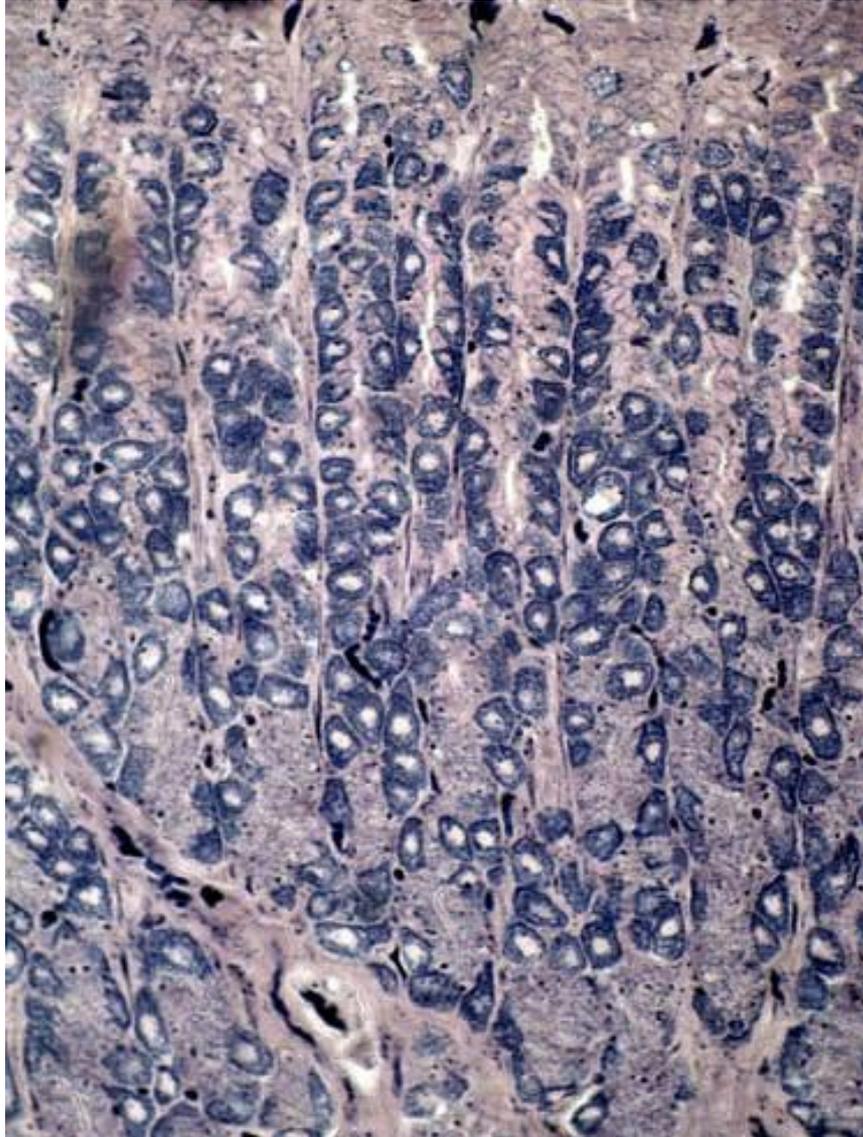


b

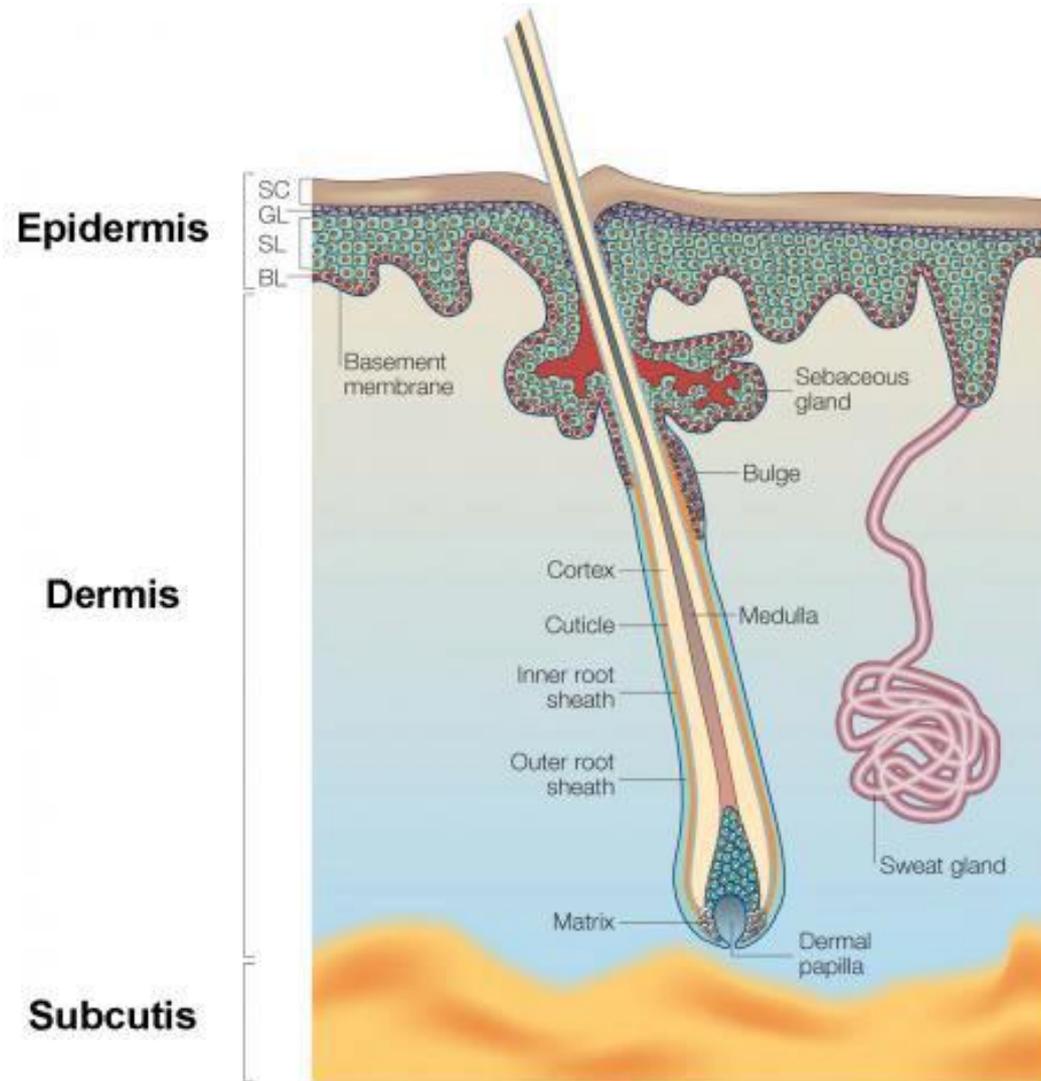
Ghiandole del fondo dello stomaco



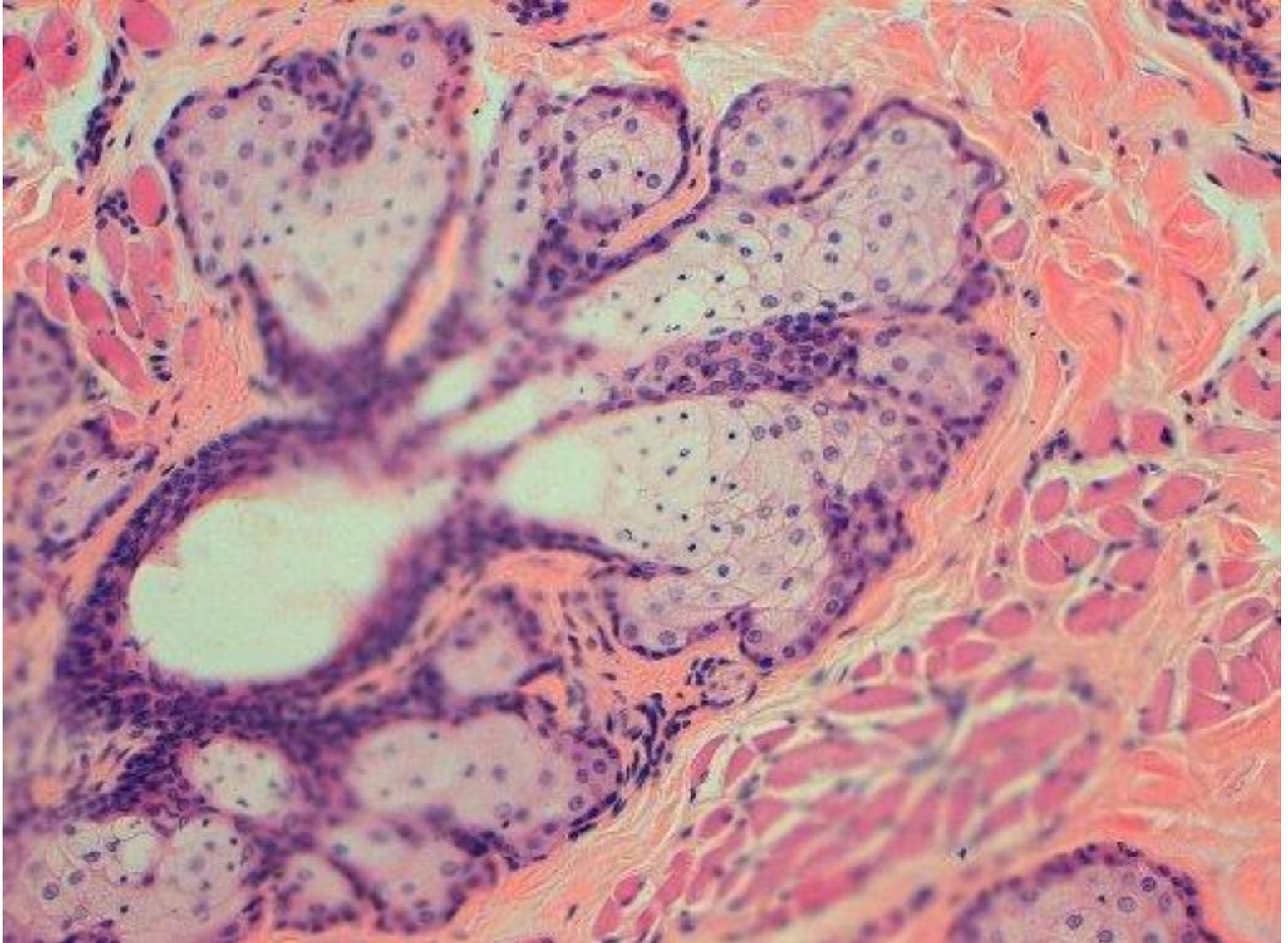
Ghiandole del fondo dello stomaco cellule delomorfe



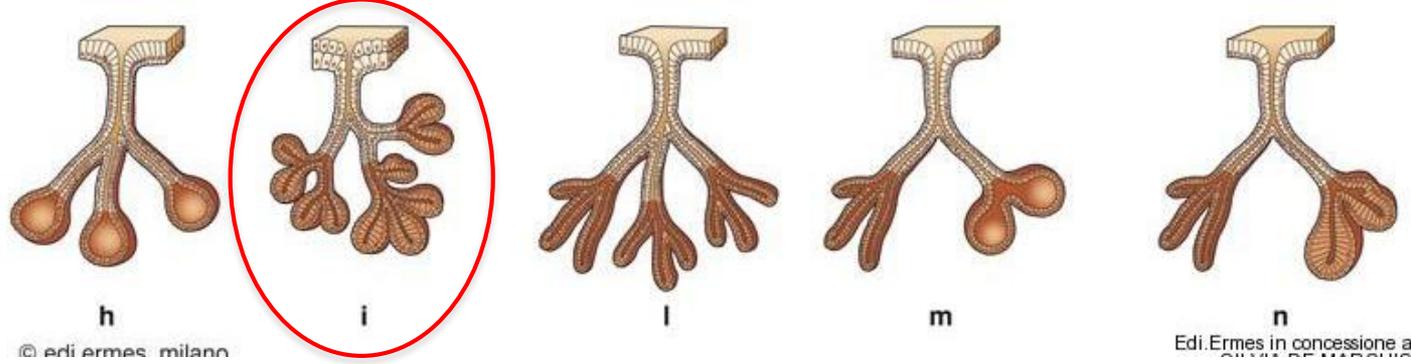
Tegumento mammifero



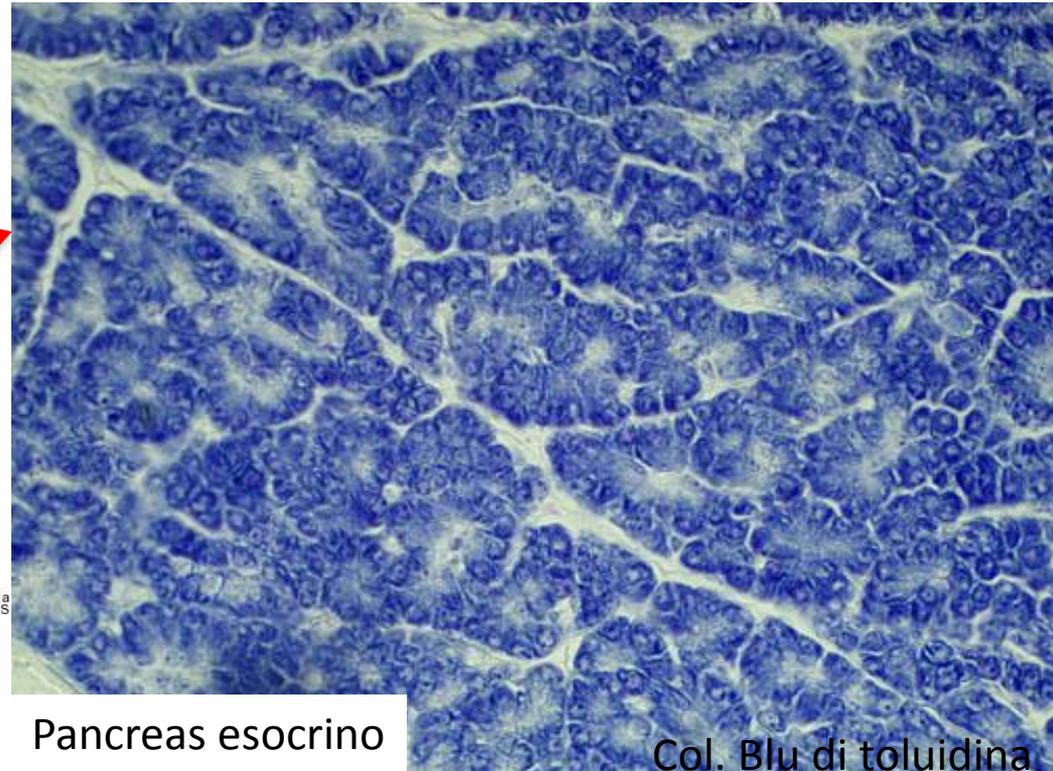
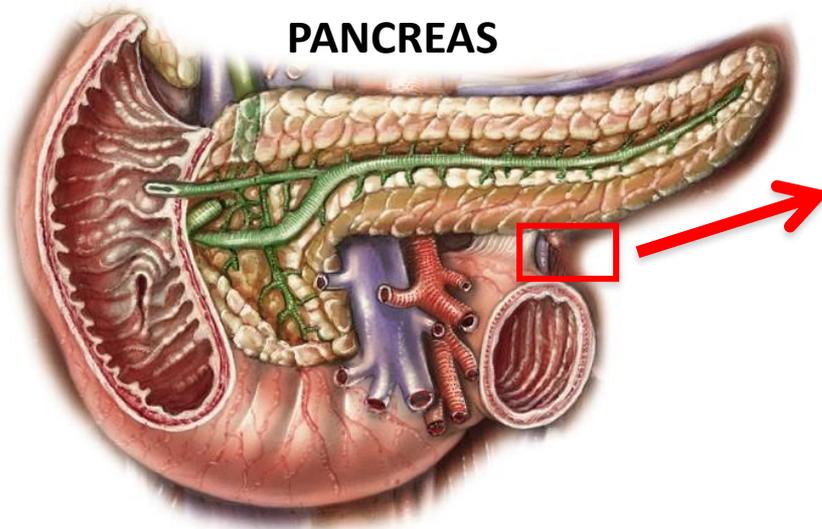
Ghiandola sebacea



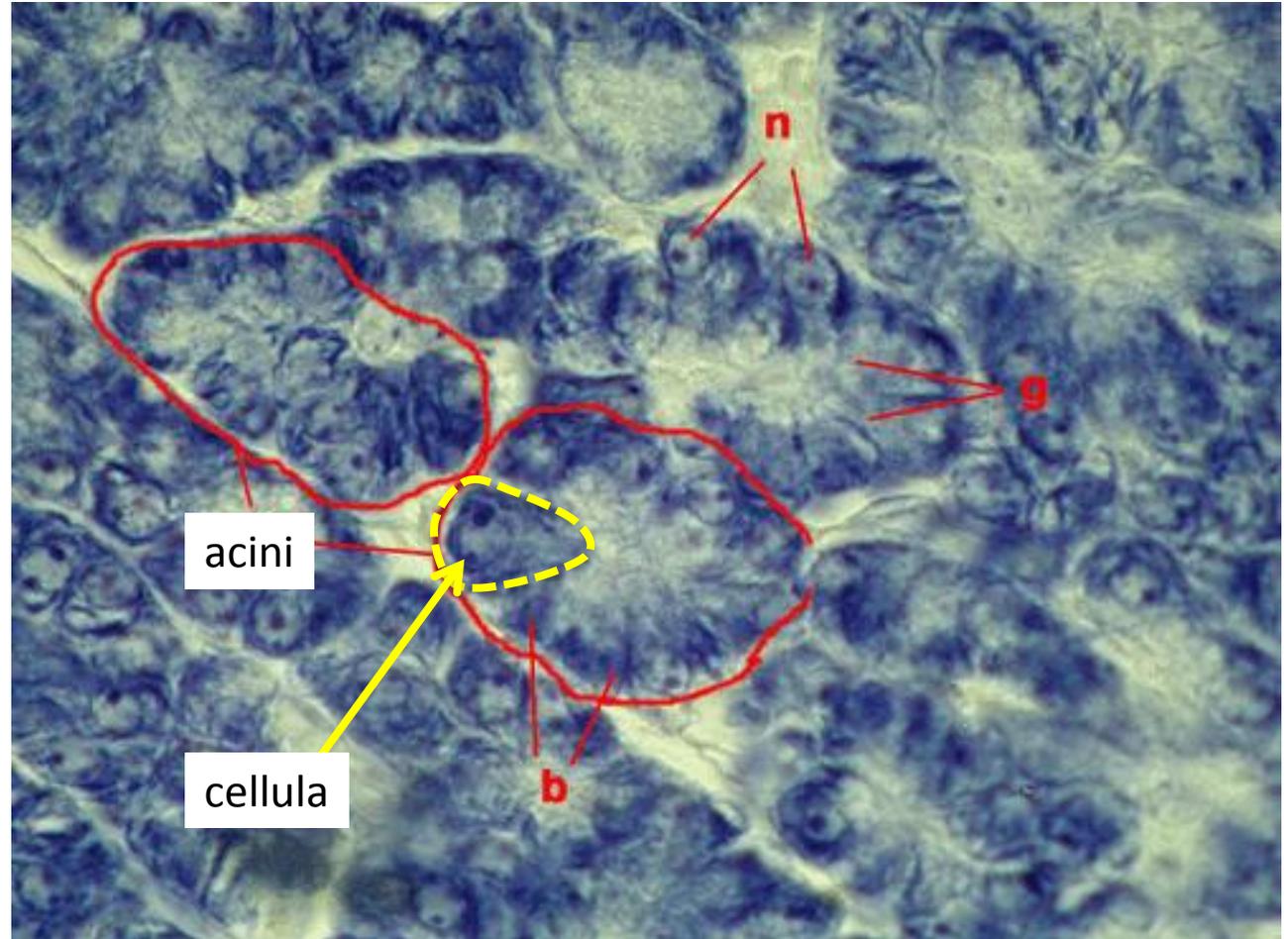
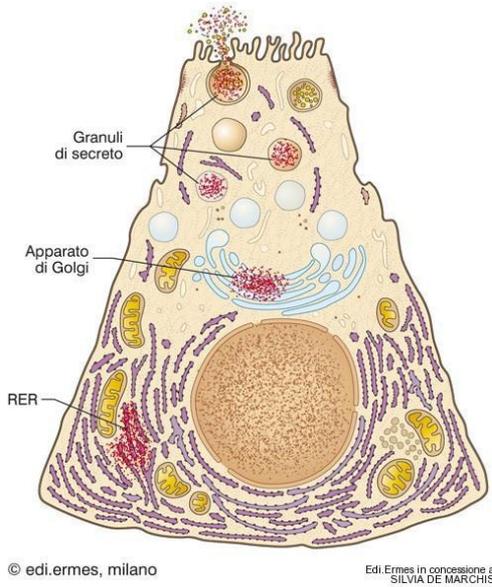
Esempi di ghiandole composte



Ghiandola acinosa composta



Pancreas esocrino → secrezione merocrina sierosa



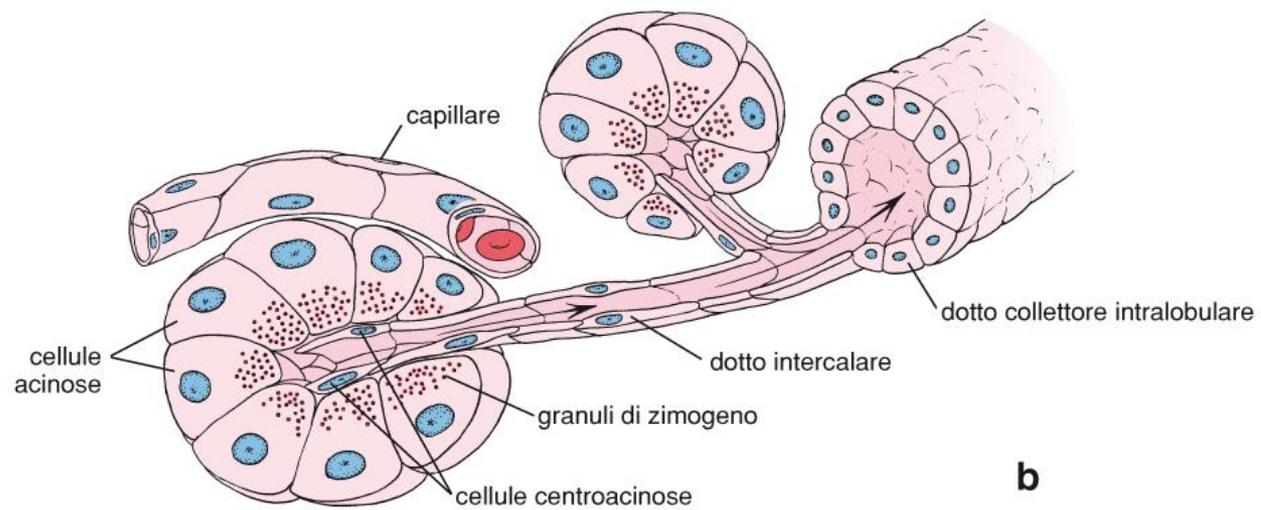
Cellula piramidale sierosa

Epitelio monostratificato

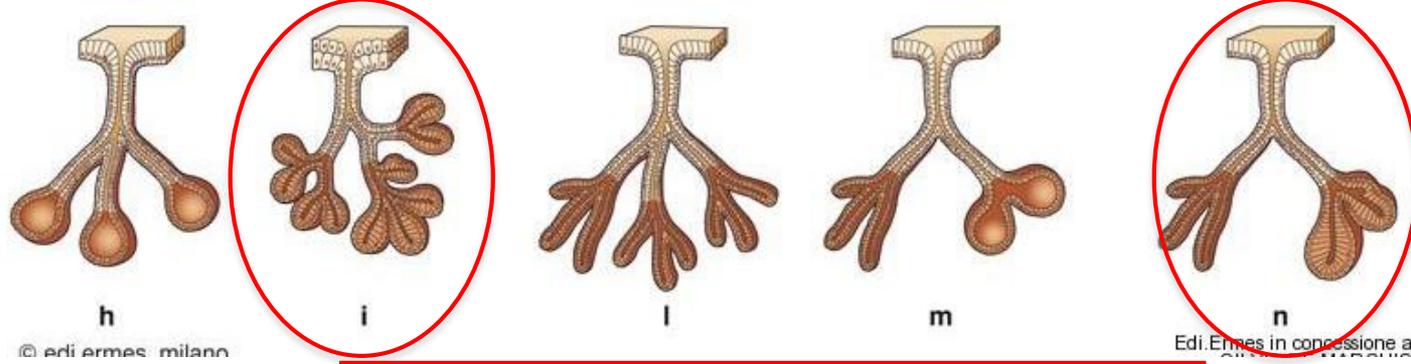
Atlante DBios

Le cell. secernenti sierose dell'acino producono i precursori degli enzimi digestivi secreti dal pancreas

Pancreas



Esempi di ghiandole composte

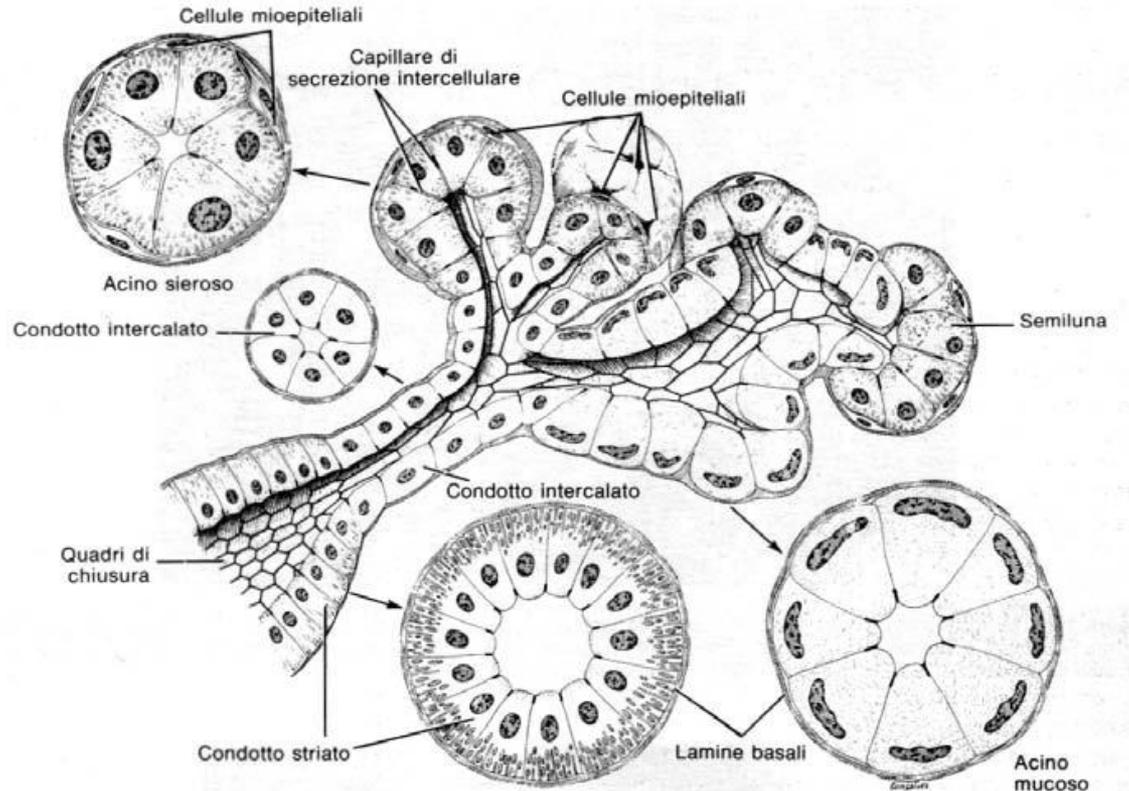
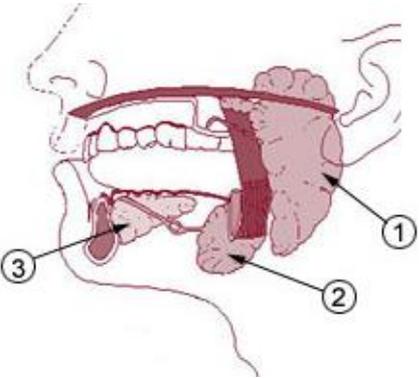


ACINOSE o TUBULO-ACINOSE COMPOSTE

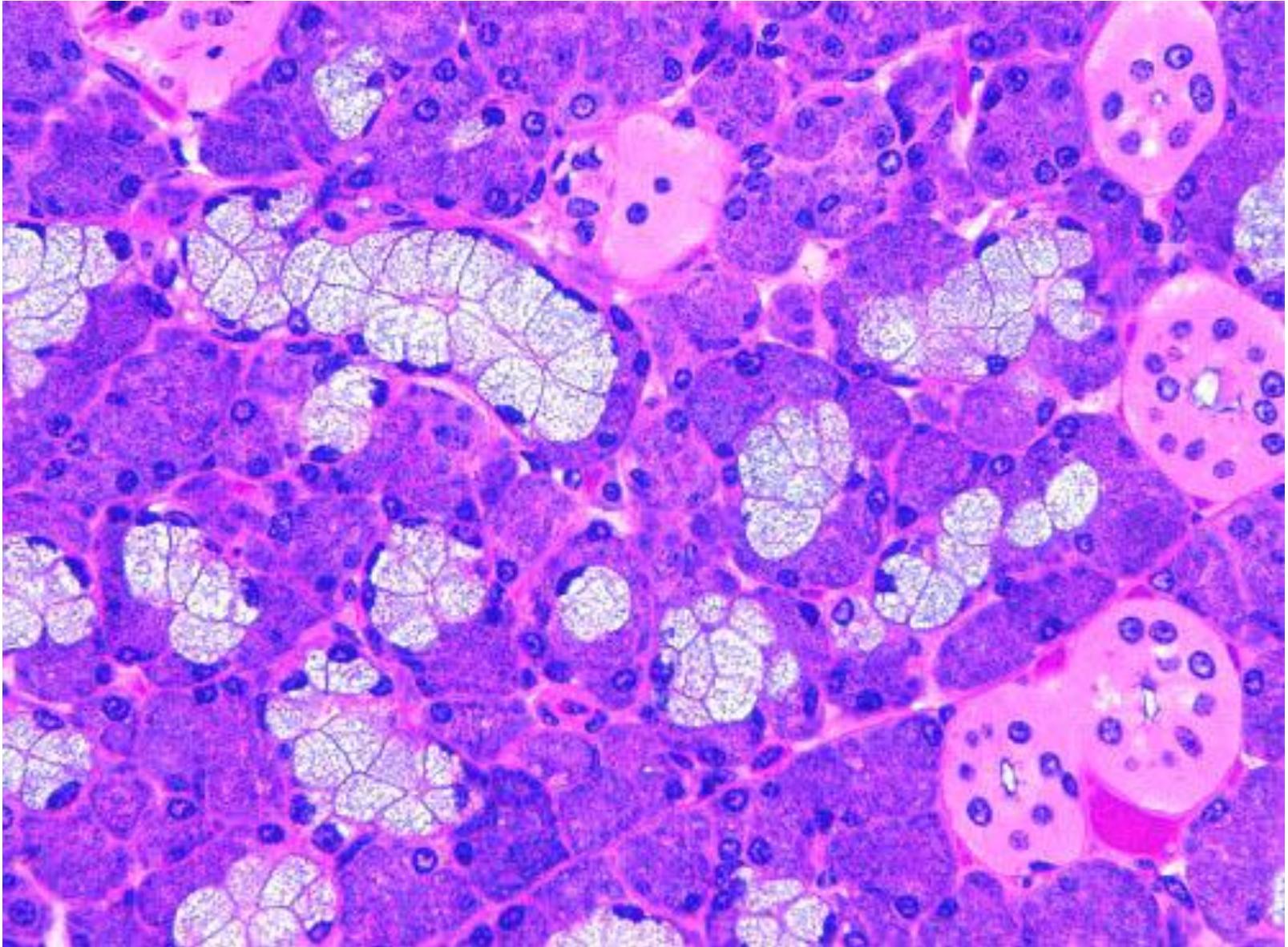
PAROTIDE= SIEROSA

SOTTOLINGUALE E SOTTOMANDIBOLARE=MISTA

GHIANDOLE SALIVARI MAGGIORI



GHIANDOLA SALIVARE TUBULO ACINOSA COMPOSTA MISTA (sottomandibolare)



PAROTIDE → ghiandola salivare a secrezione sierosa

