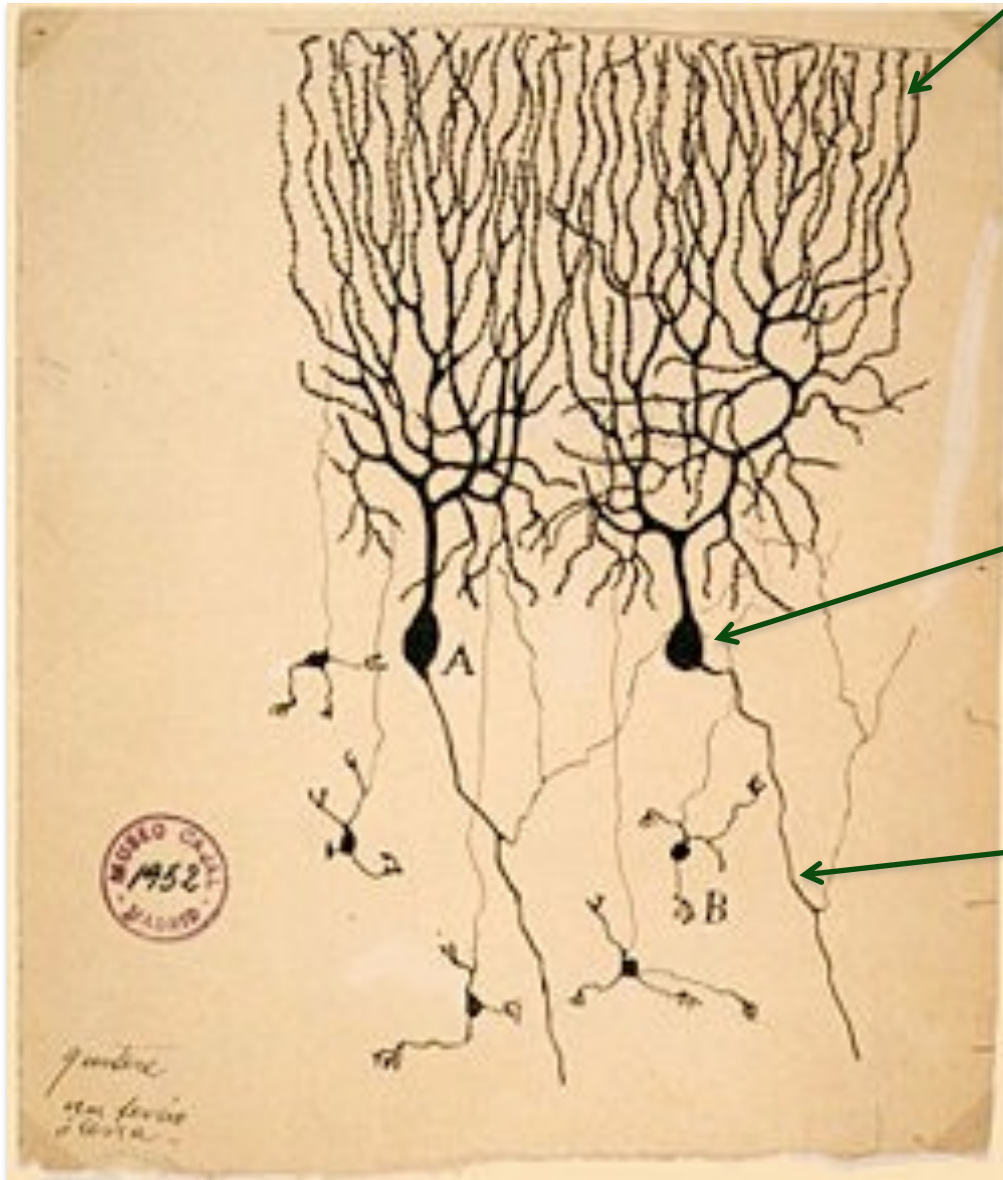


Il neurone

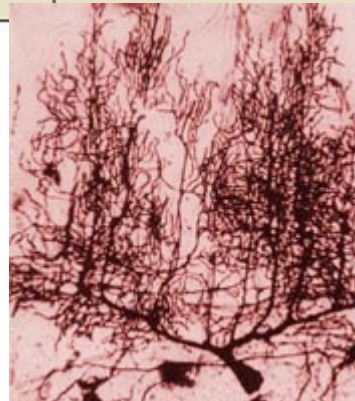
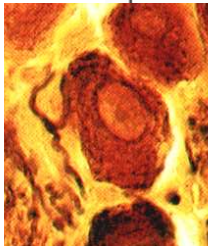
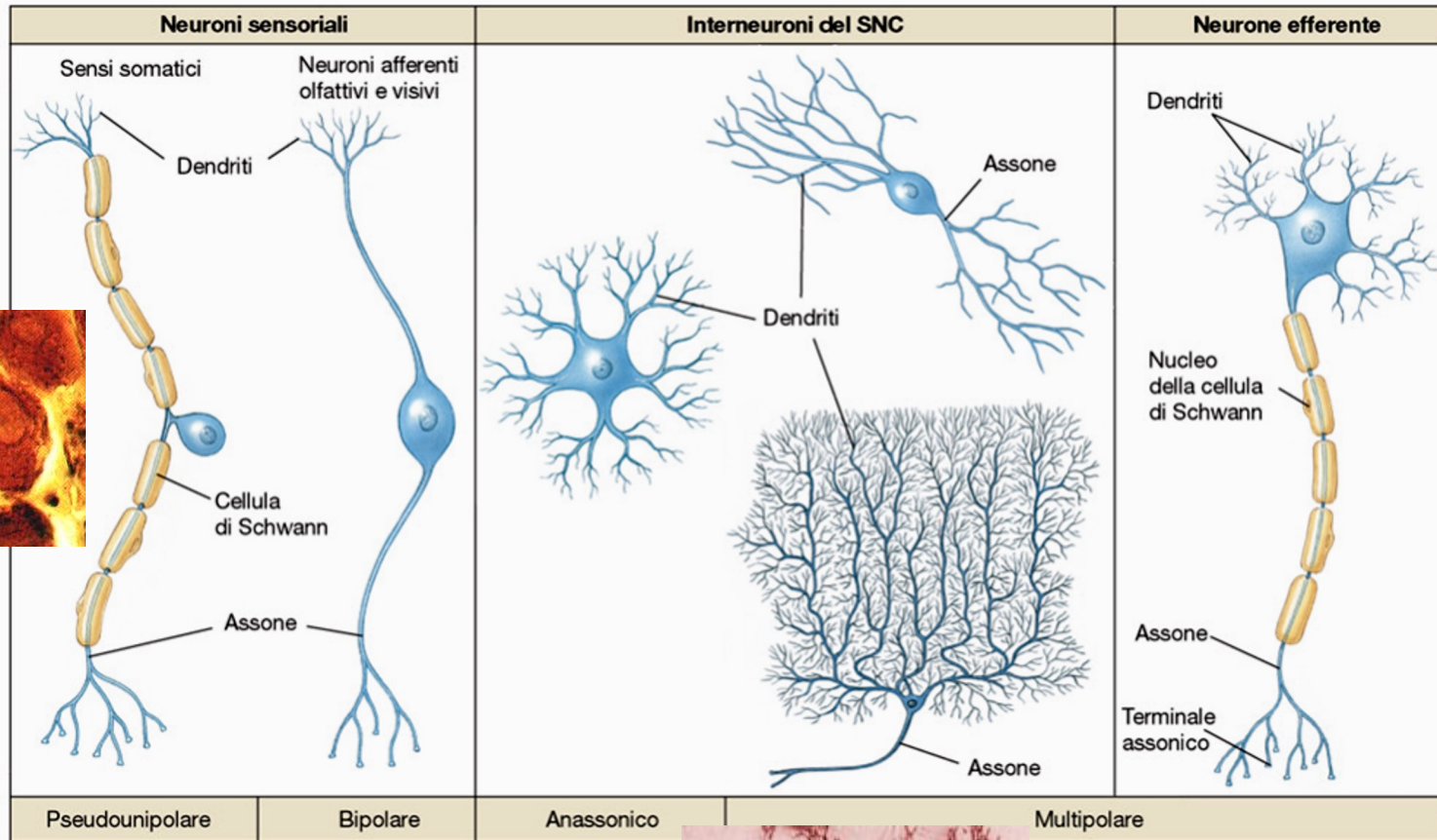
Dendriti (dal greco dèndron=albero)

*Soma
(corpo cellulare)*

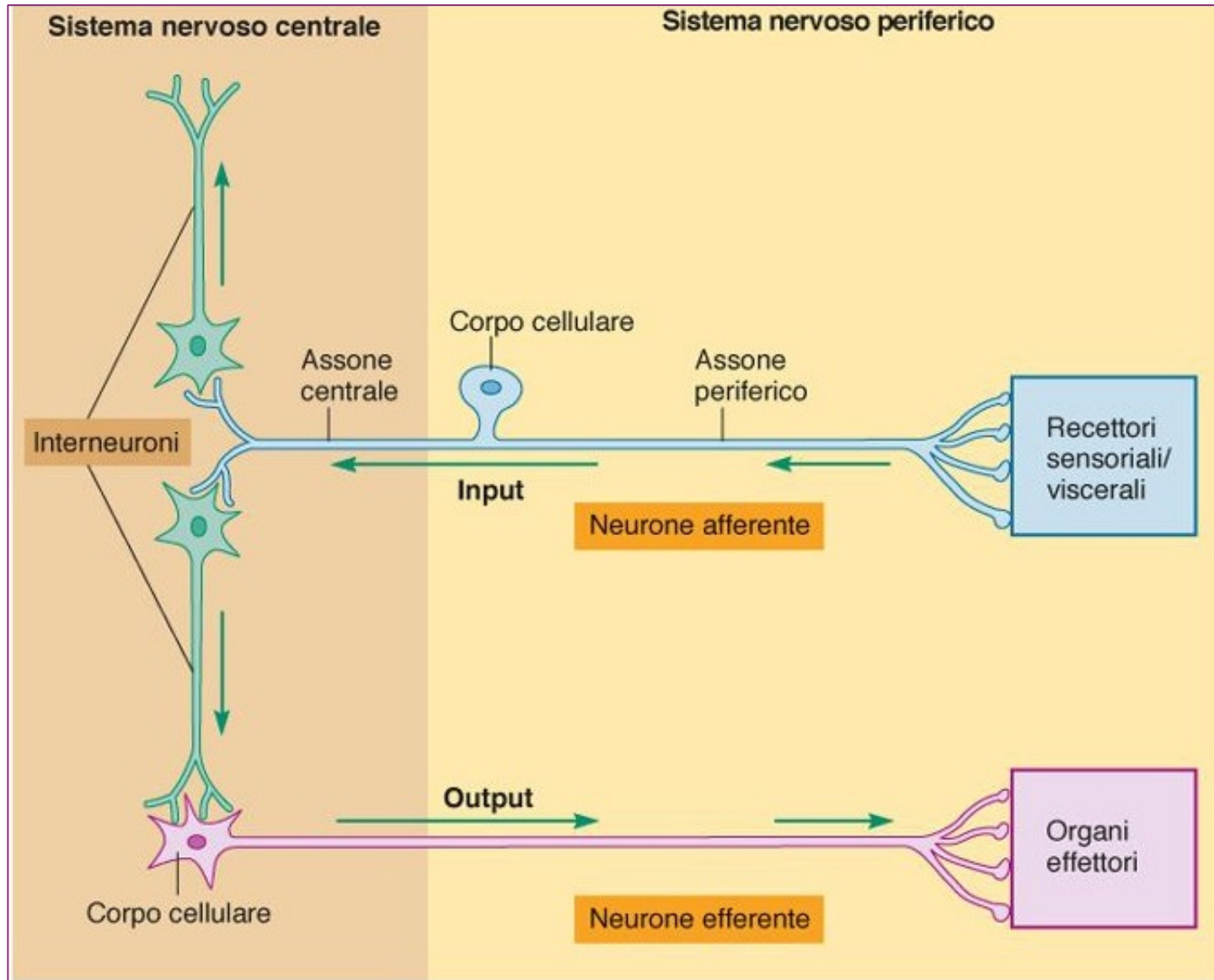
Assone

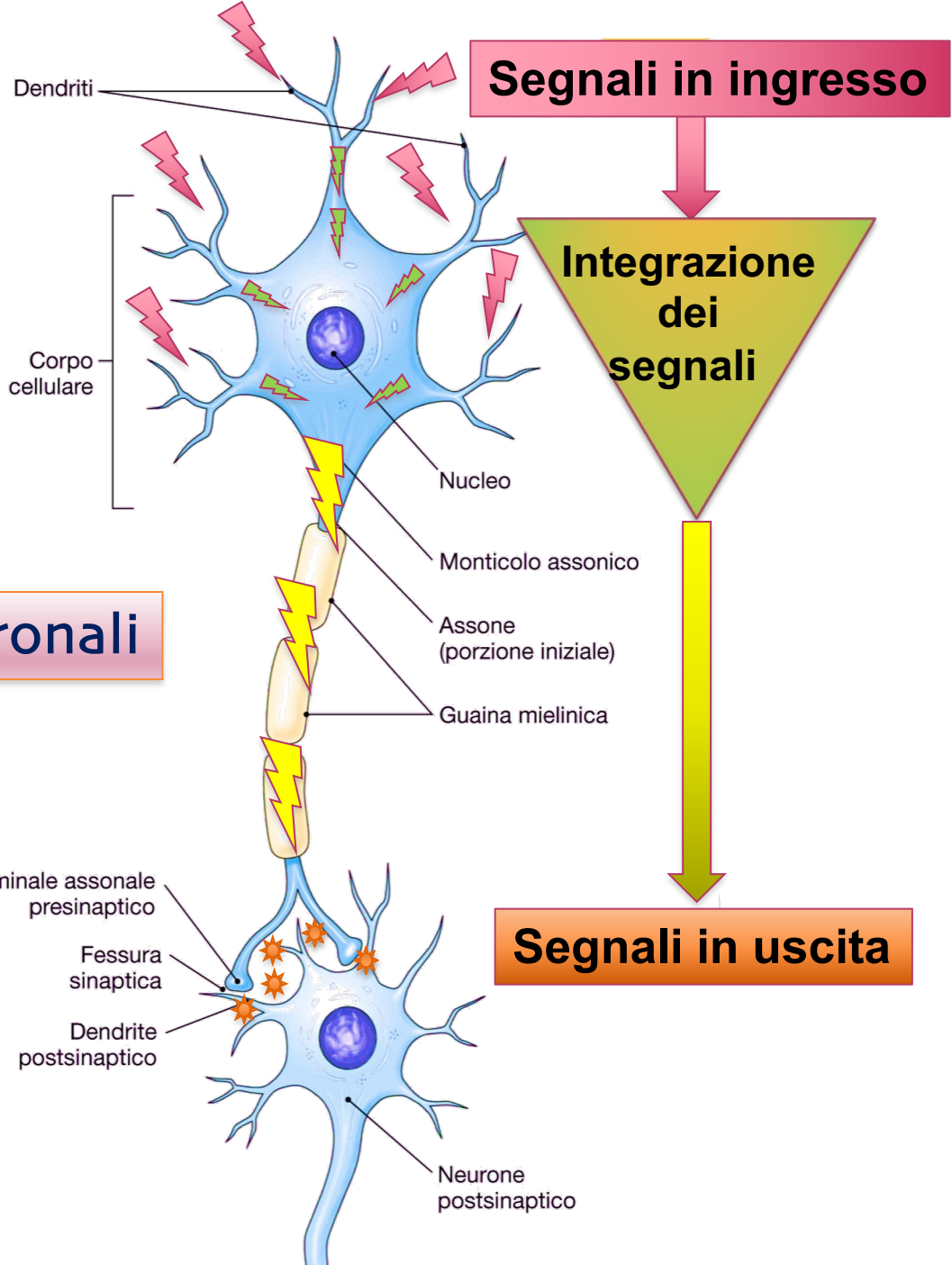


Classificazione anatomica e funzionale dei neuroni

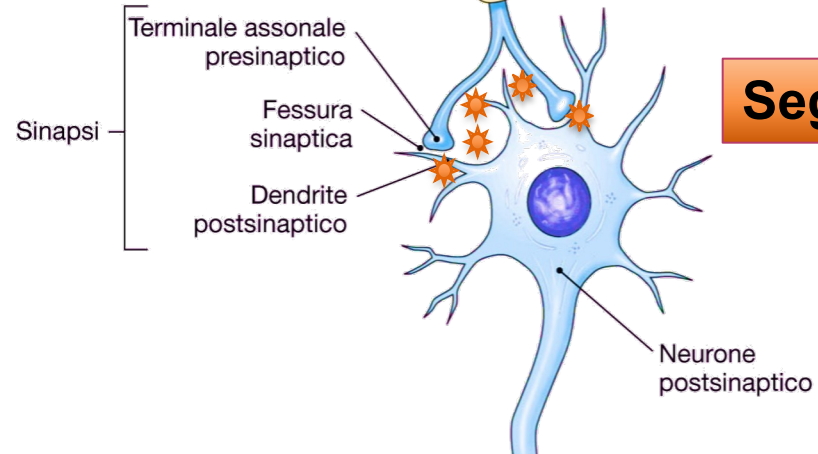


Circuiti neuronali





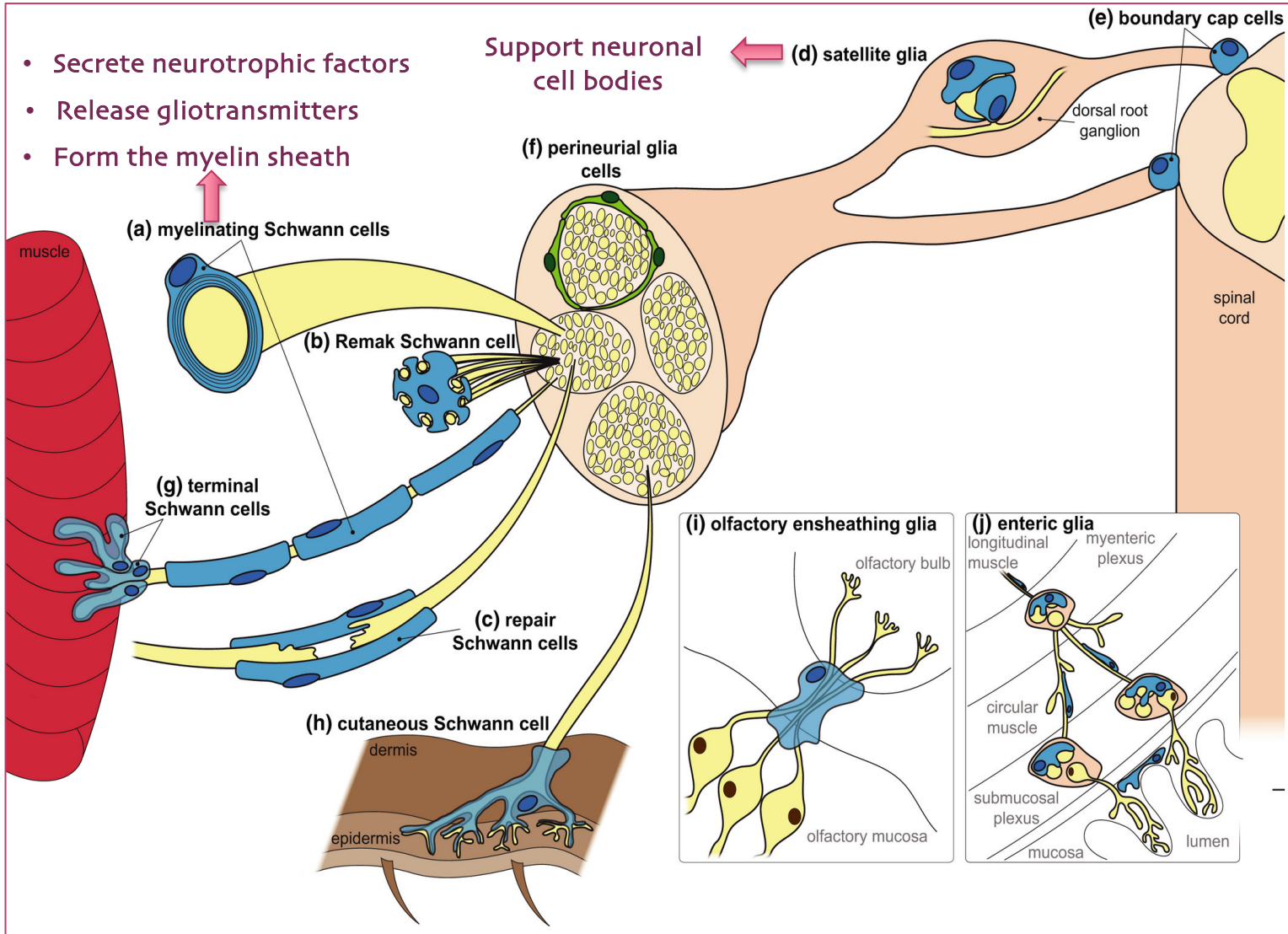
Domini funzionali neuronali



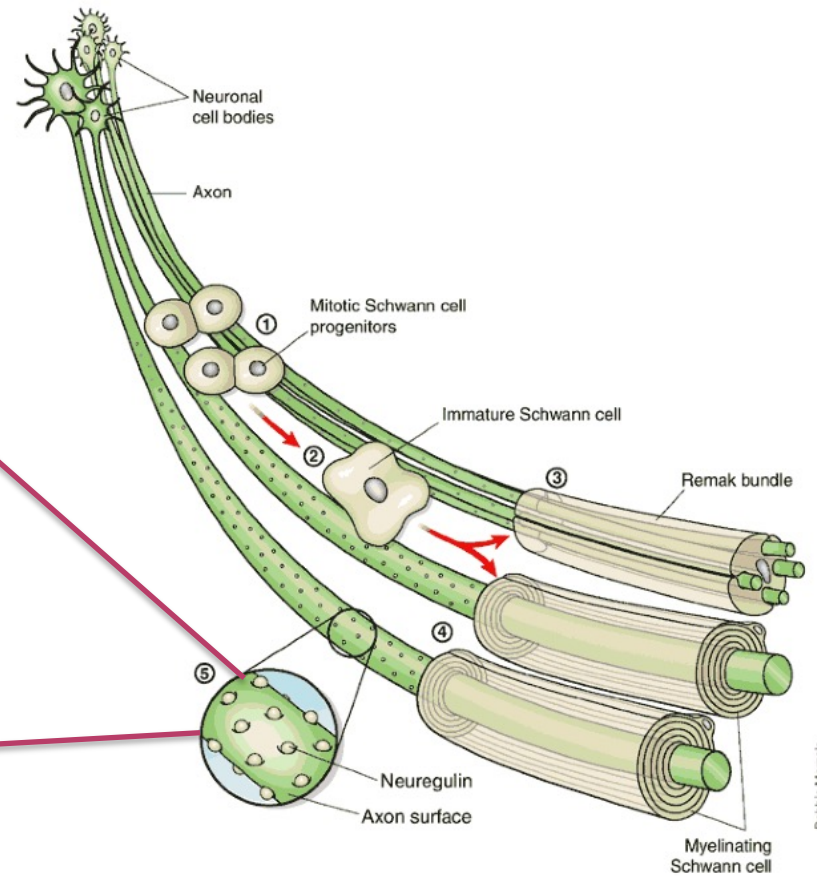
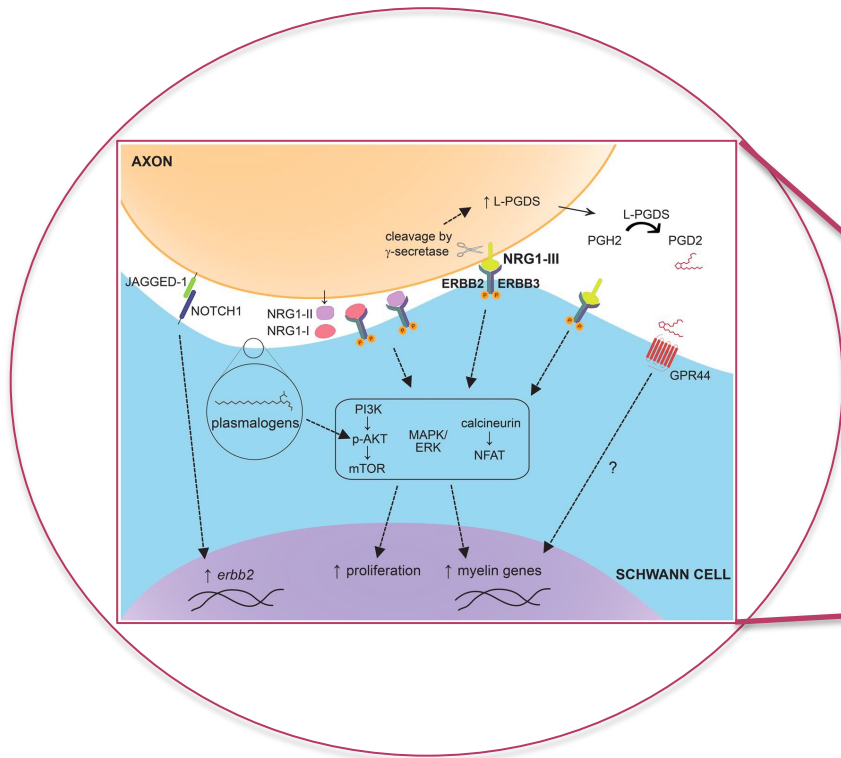
La neuroglia periferica

Cellule funzionalmente diverse

- Secrete neurotrophic factors
- Release gliotransmitters
- Form the myelin sheath

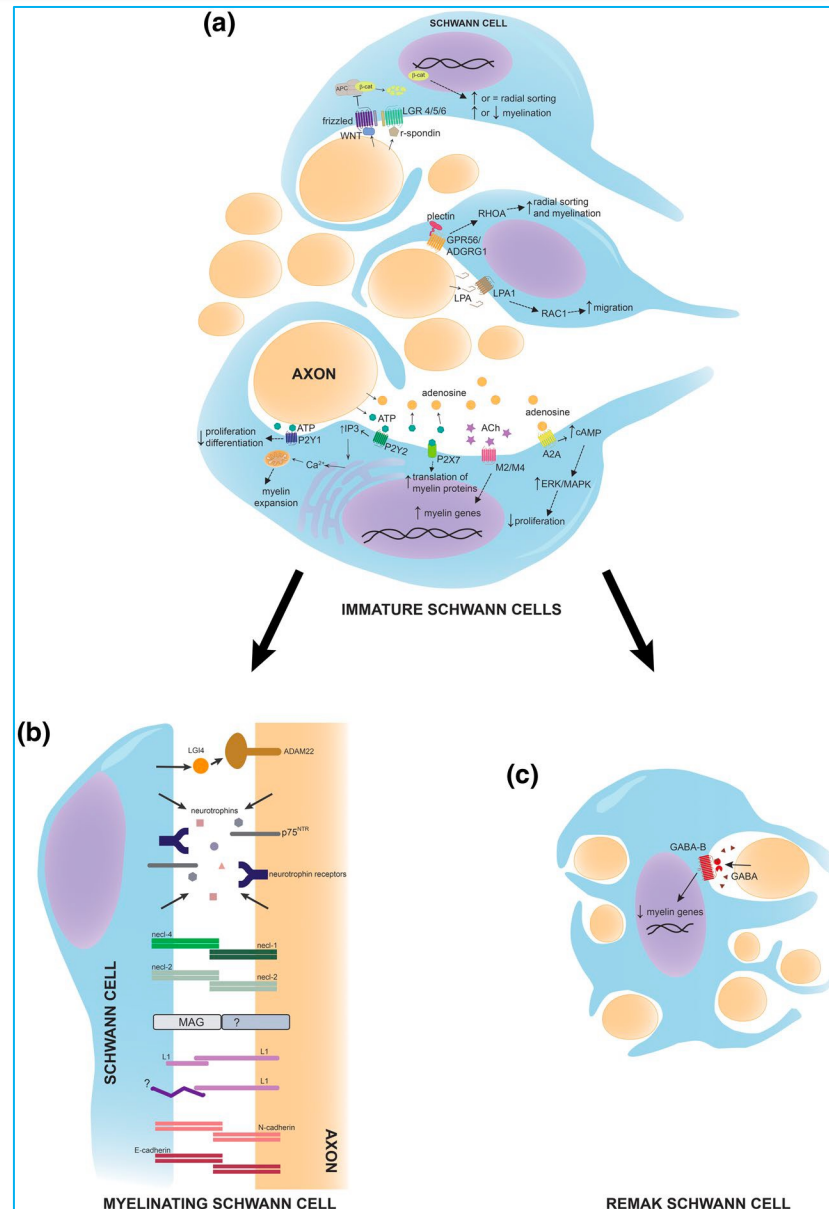


Non tutti gli assoni periferici sono mielinizzati

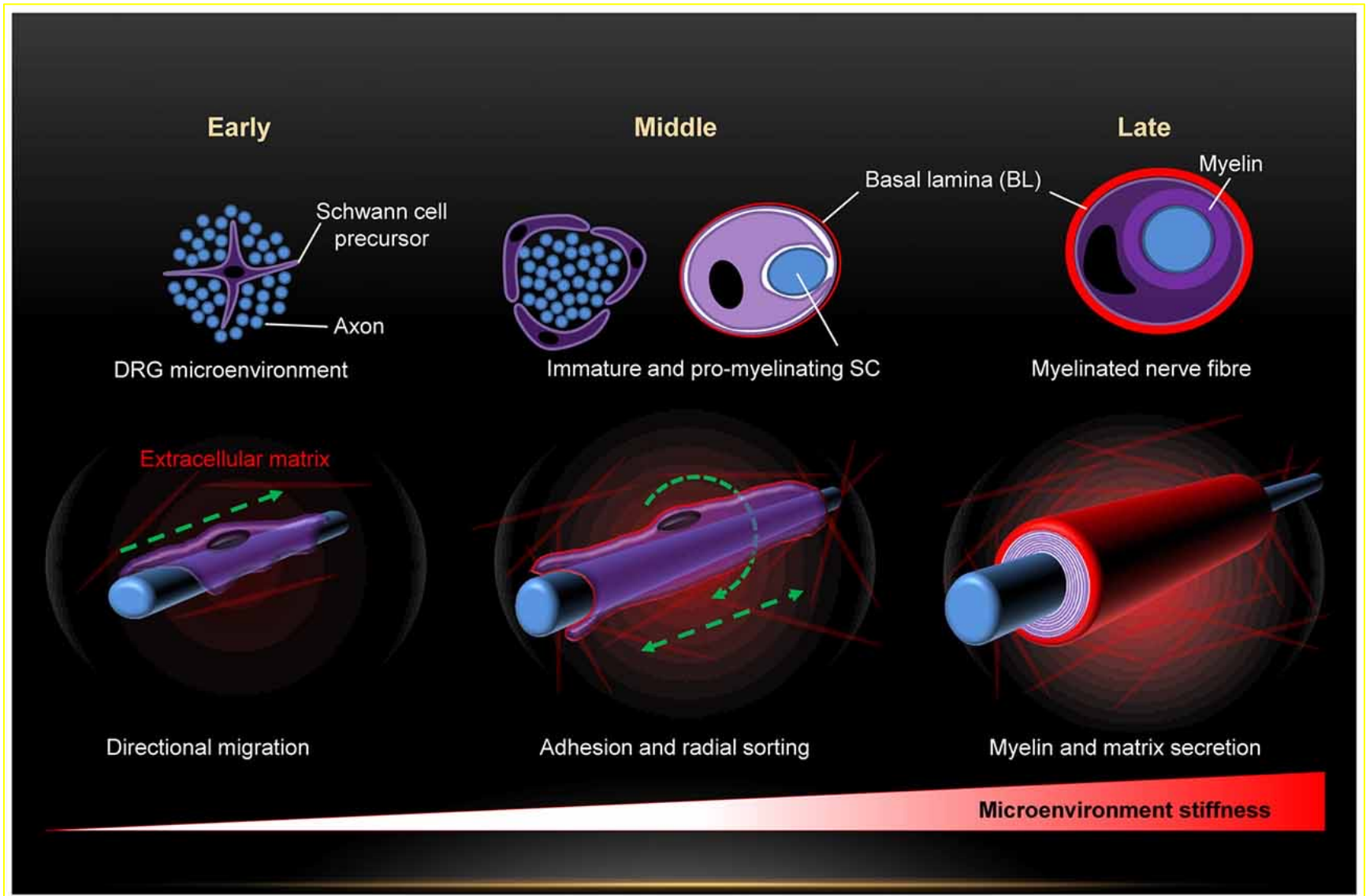


L'espressione di neuregulina-1 sull'assone determina se una cellula do Schwann immatura differenzierà in una cellula di Schwann mielinizzante

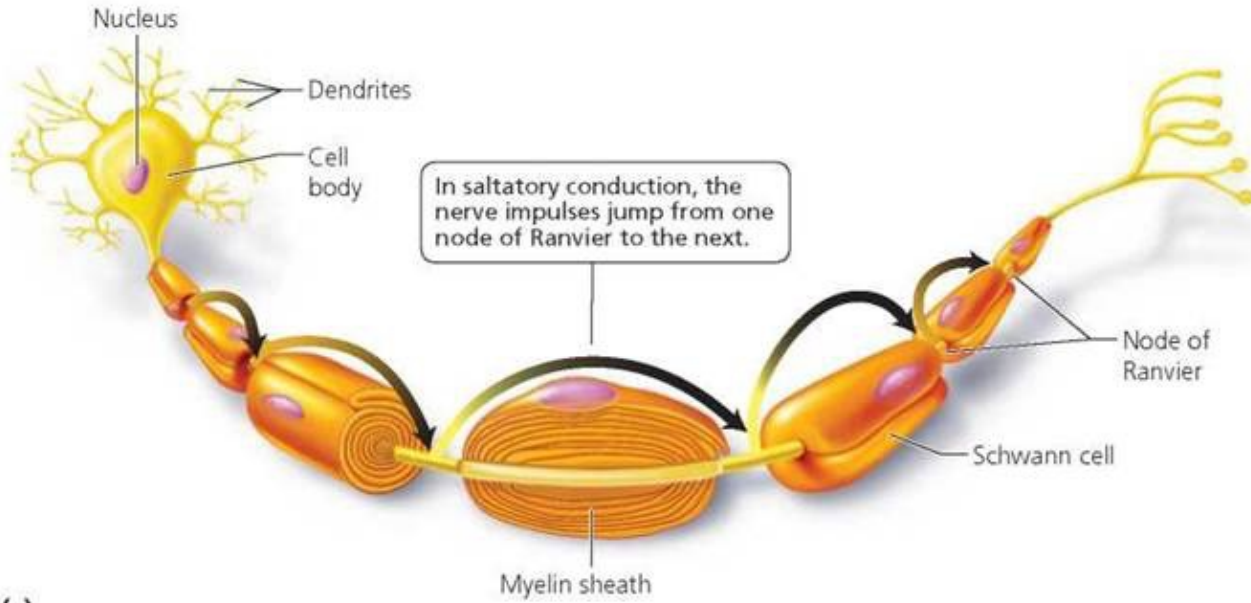
Ma la Neuregulina-1 on è la sola via di segnalazione



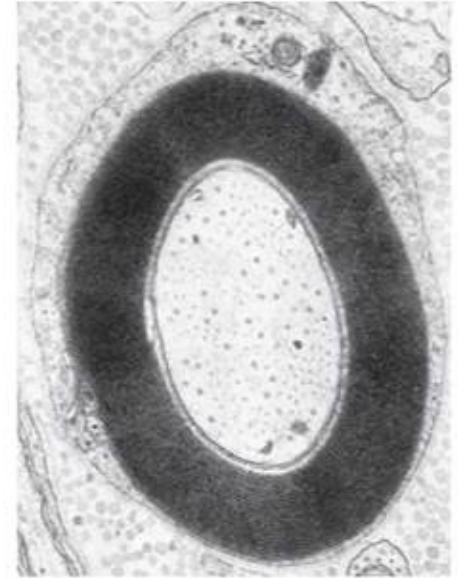
Maturazione cellule di Schwann in un fenotipo mielinizzante



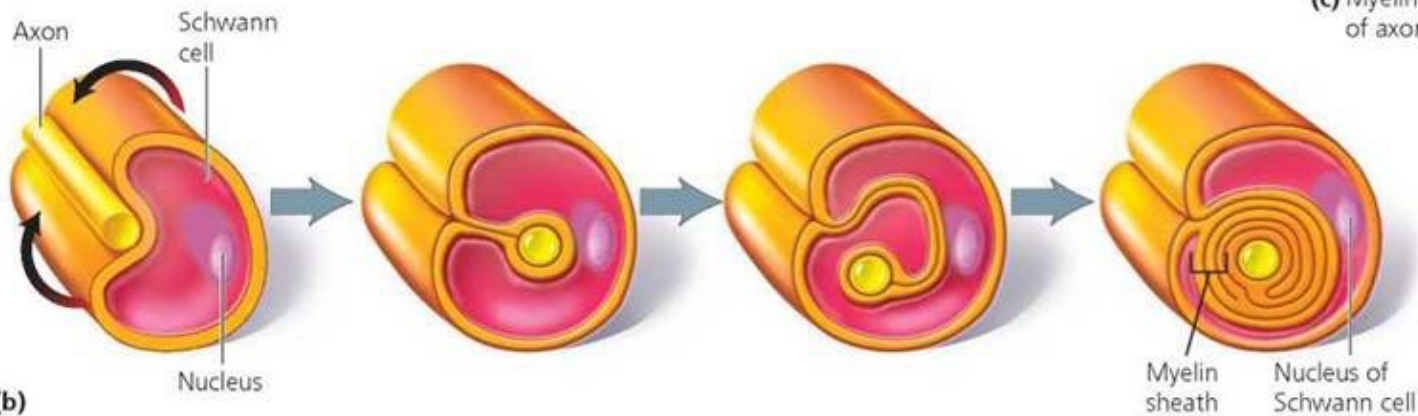
Cellule di Schwann



(a)



(c) Myelin sheath surrounding cut end of axon



(b)

La neuroglia centrale

Cellule funzionalmente diverse

Create barriers among compartments
(i.e. blood brain barrier, BBB)

Form the
myelin sheath

Release
gliotransmitters

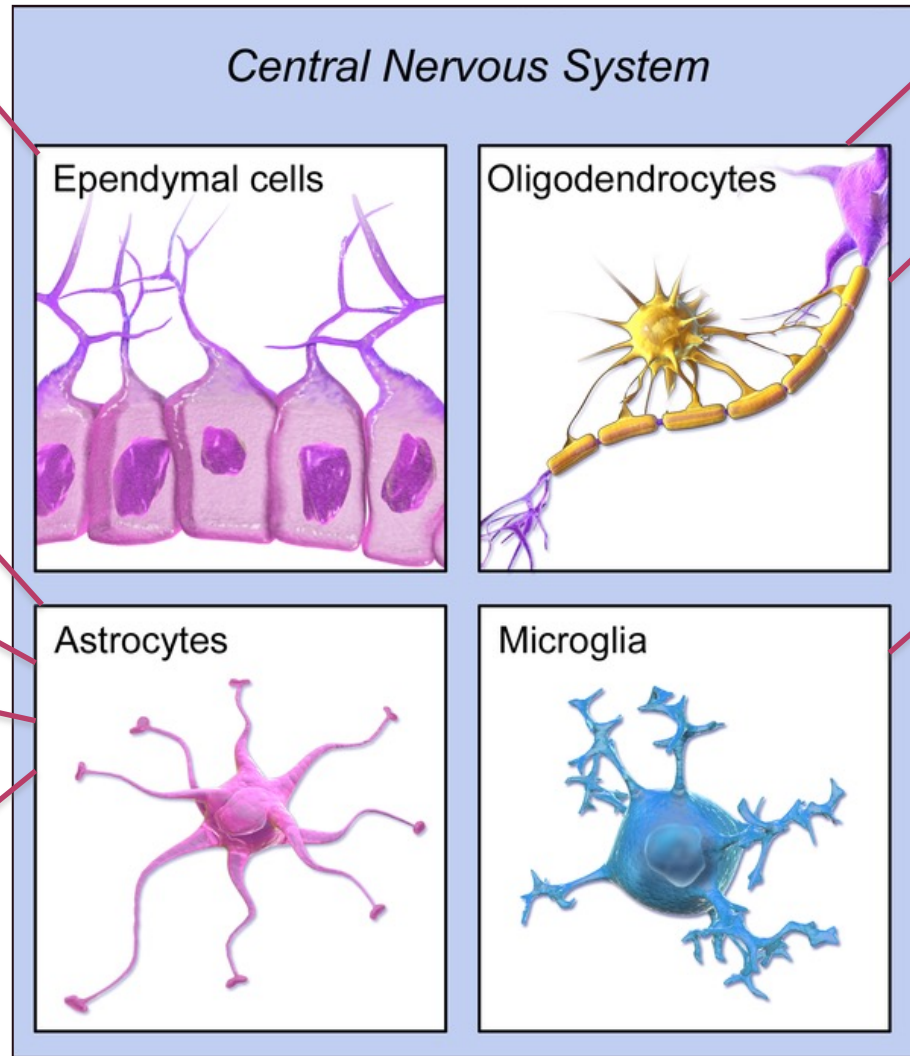
Mechanical support to
the nervous system

Contribute forming the
BBB

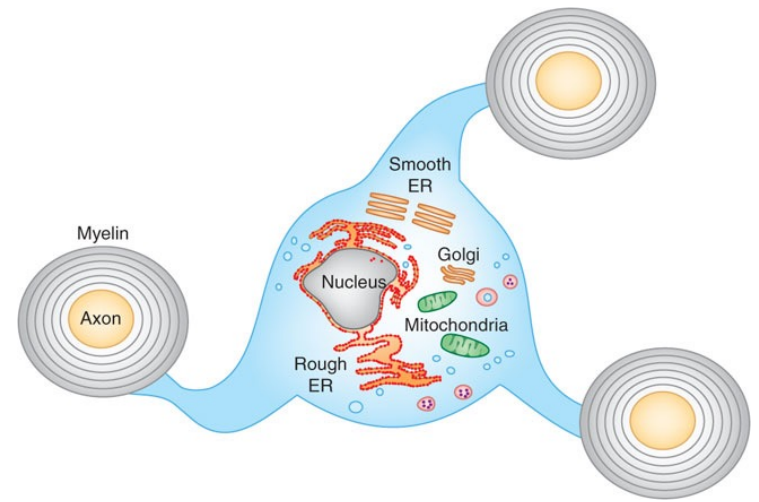
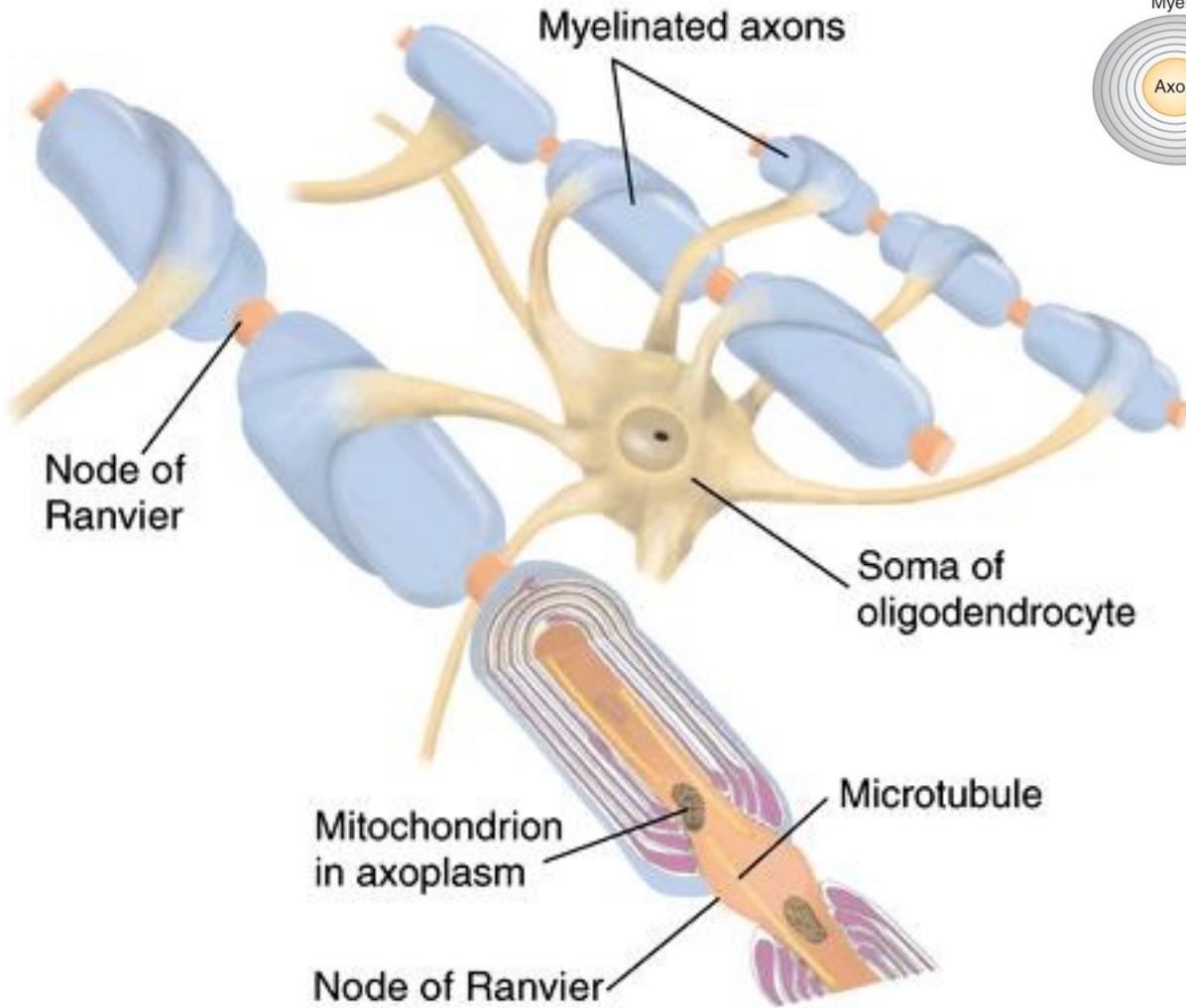
Secrete neurotrophic
factors

Recapture
neurotransmitters
and K^+ from the
extracellular space

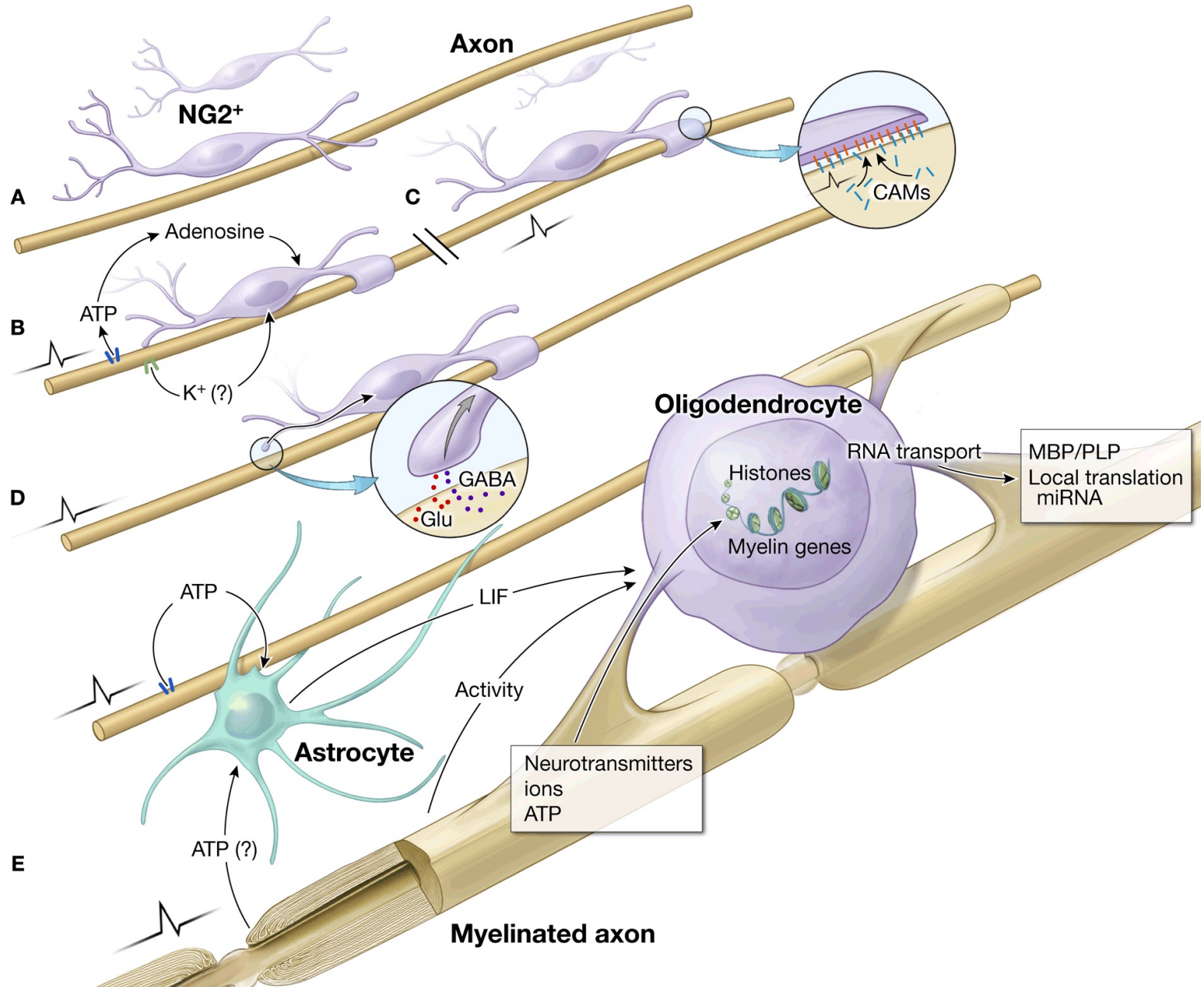
Immune function:
"scavengers"



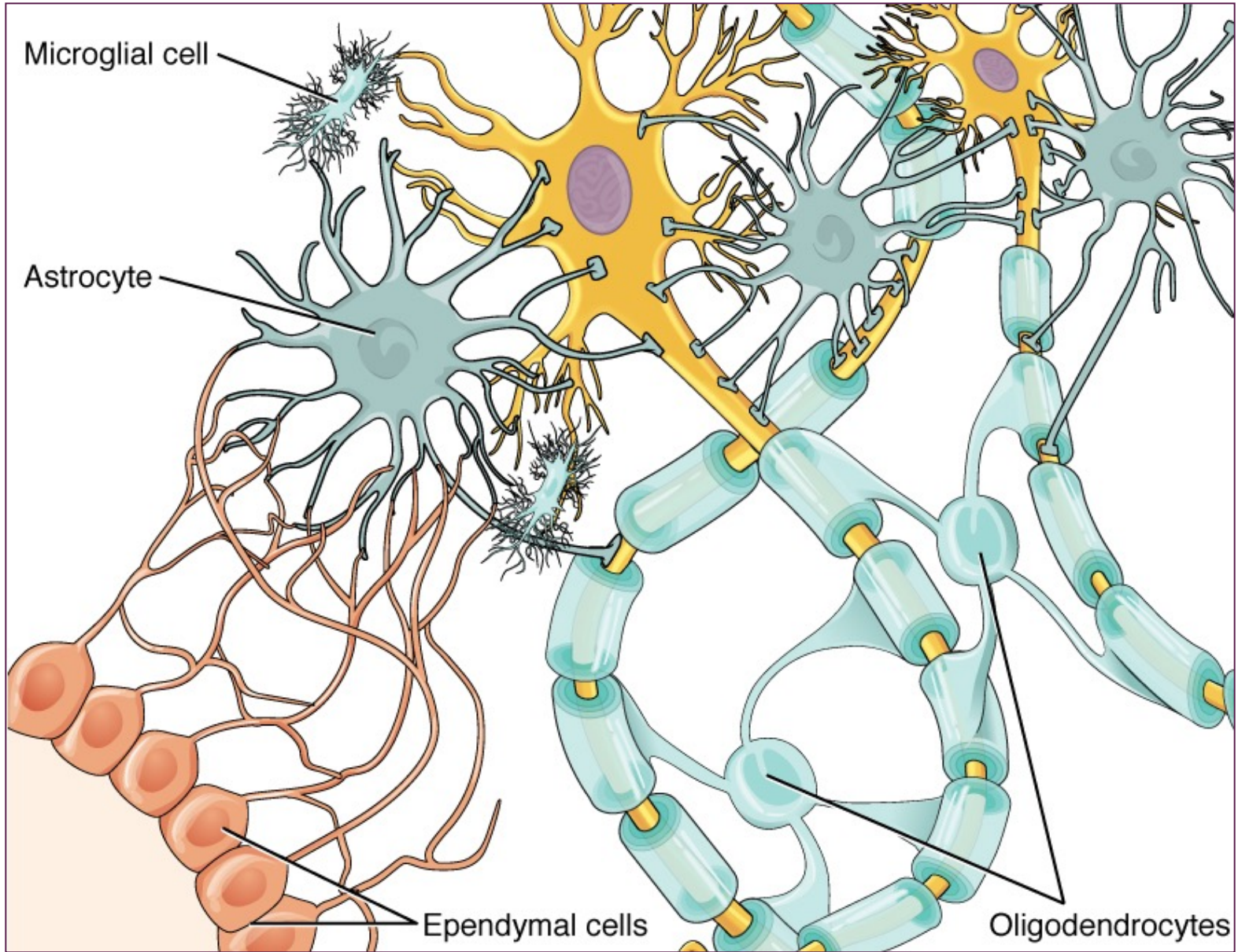
Oligodendrocyti



Relazione funzionale oligodendroцитi-assoni

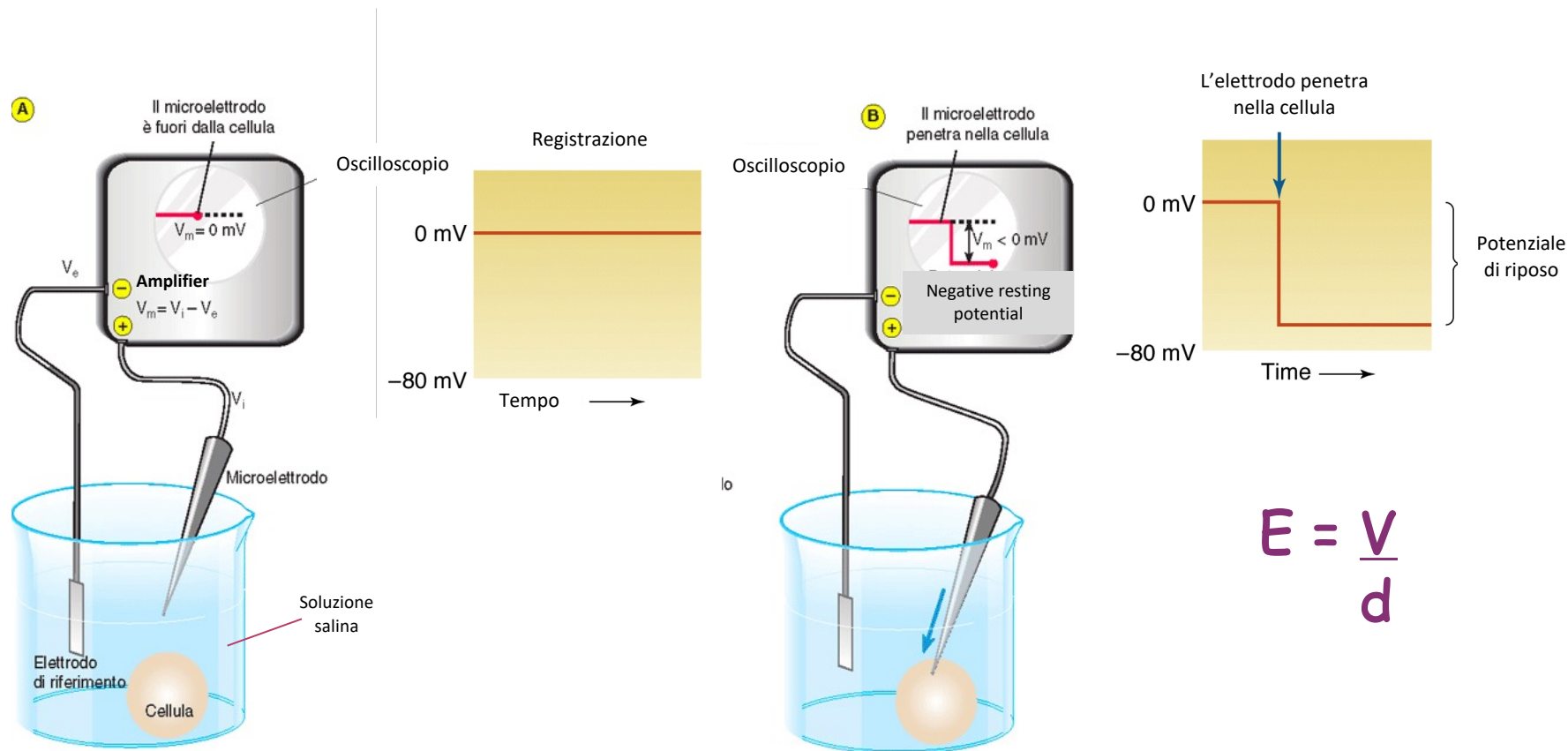


Interazioni Neuroni e neuroglia

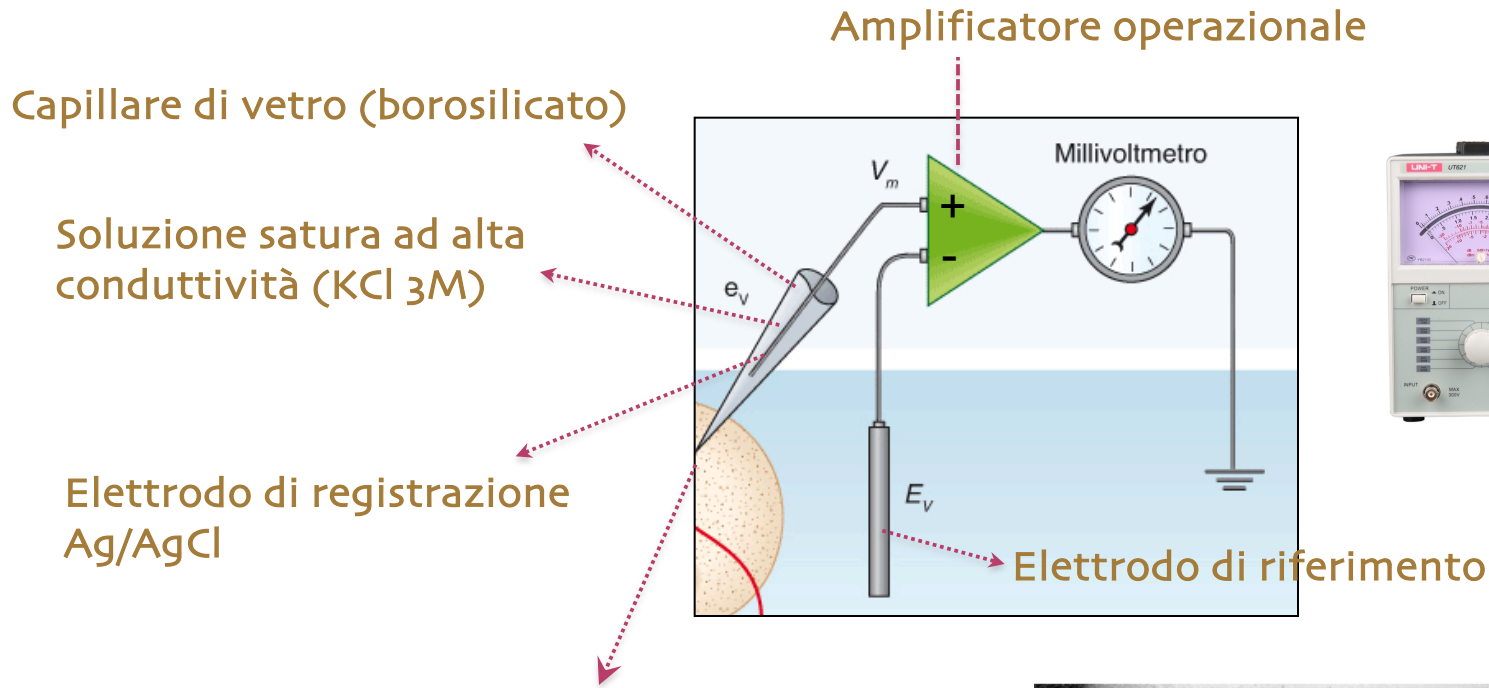


Registrazione di un potenziale di riposo (V_{rip}) di una cellula

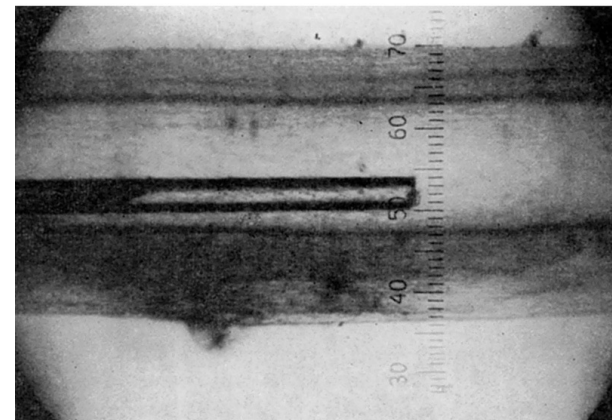
Tutte le cellule possiedono una differenza di potenziale tra il citoplasma e l'ambiente extracellulare che costituisce un gradiente elettrico che funge da forza elettromotrice per il movimento di ioni attraverso la membrana



Come è fatto un apparato di registrazione del voltaggio?



Diametro punta: $\leq 1 \mu\text{m}$
Resistenza: da 5 a diverse decine di $\text{M}\Omega$



Elettrodo intracellulare (assone gigante di calamaro)