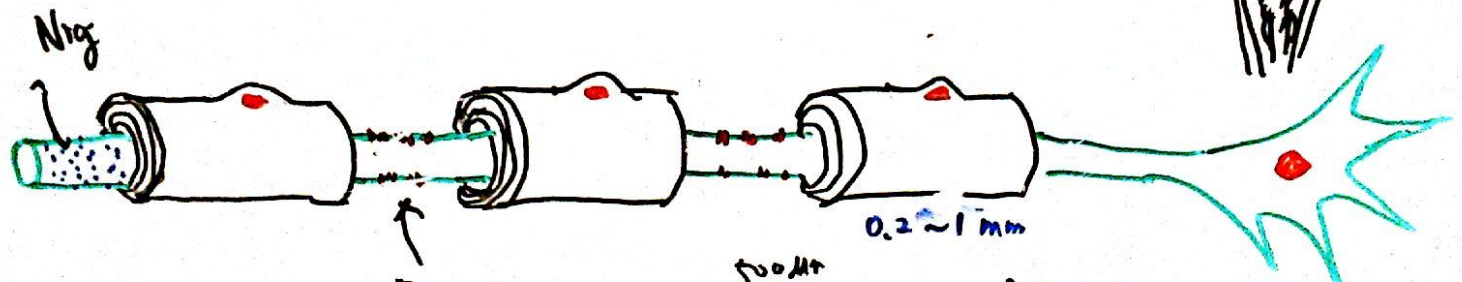
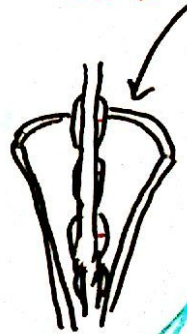
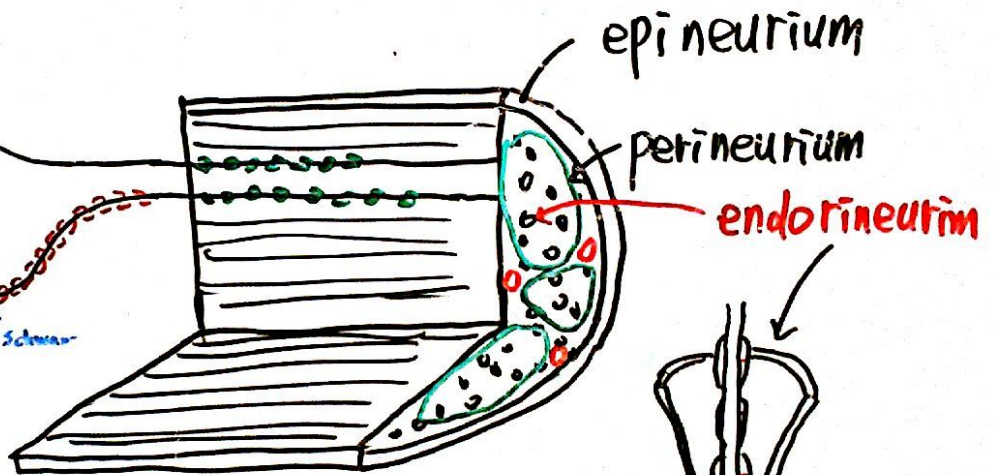
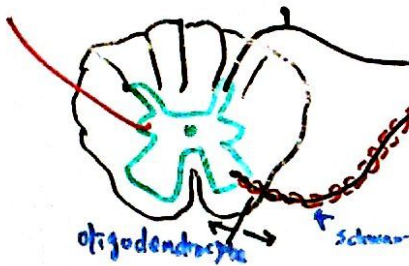


신경
섬유 ⇒

A, α , β , γ , δ C

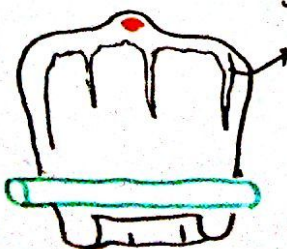
직경 20 ~ 2 μ m 2 μ m ↓
속도 120 ~ 5 m/sec 2 m/sec ↓
노징어 500 μ m

lateral horn



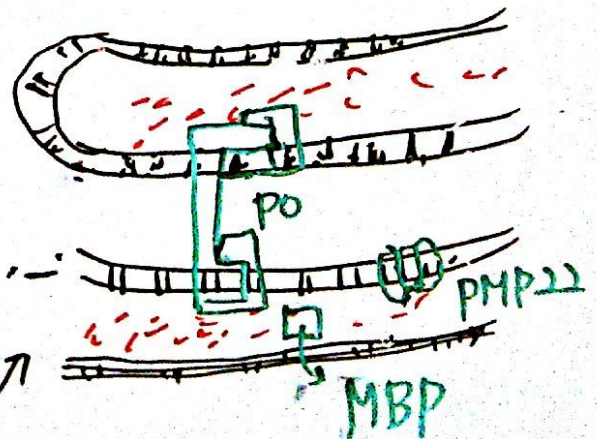
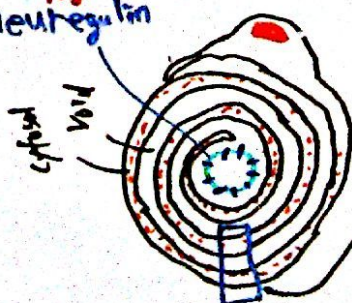
node of Ranvier
1 μ m

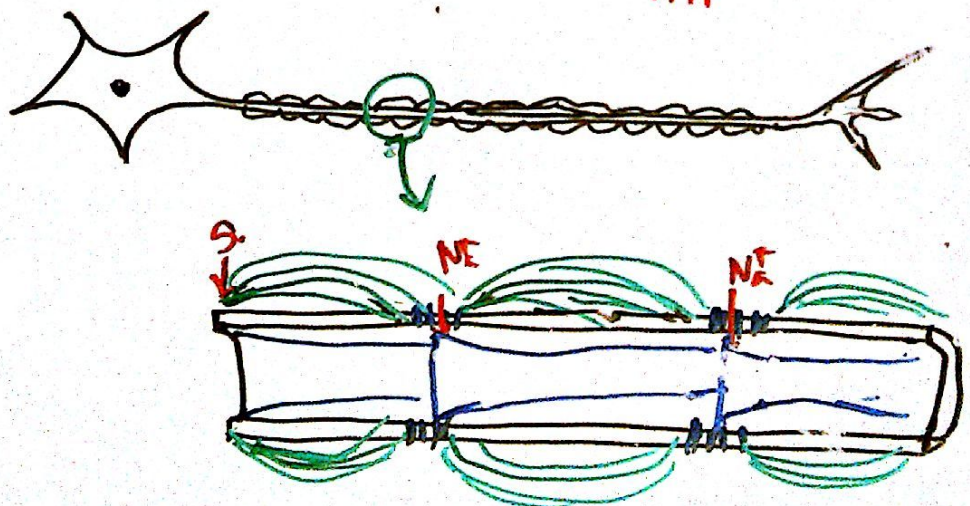
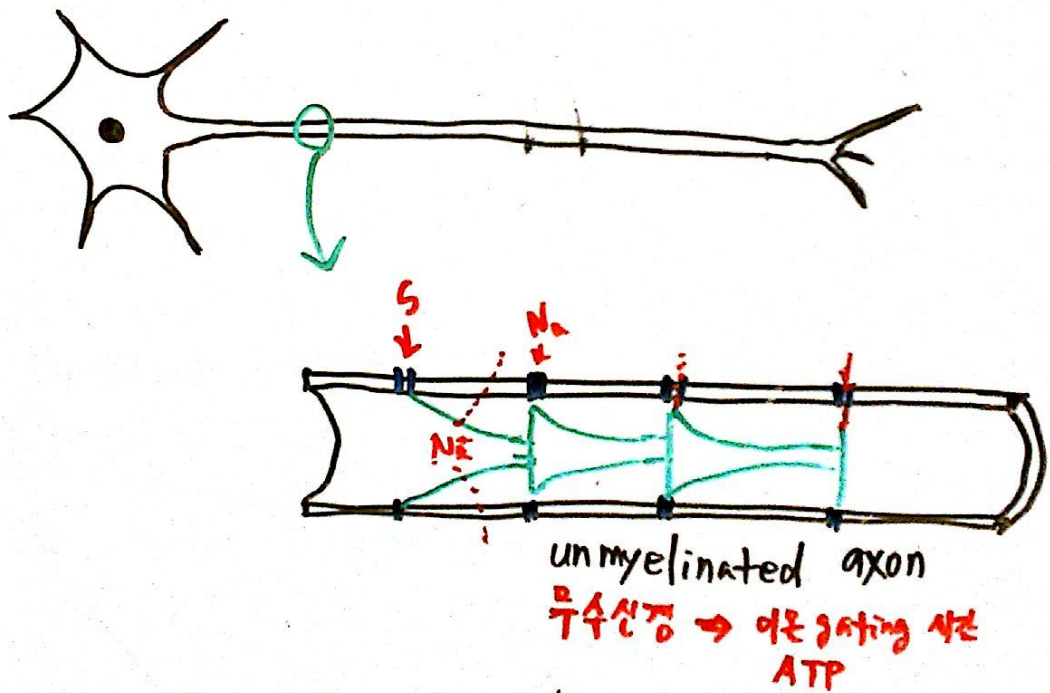
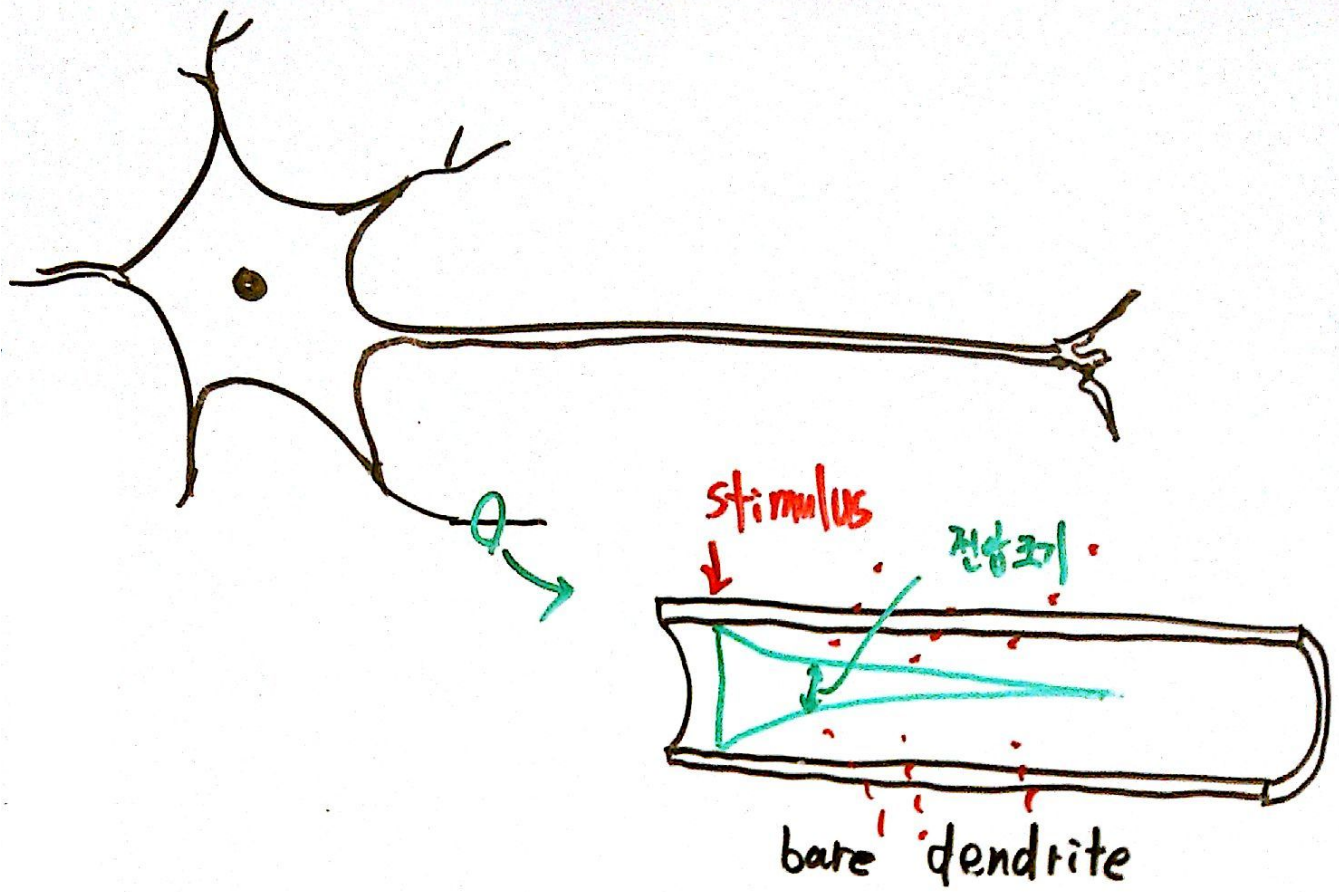
500 μ m
500 μ m ⇒ 총 구강 4개



Schmit-Lanternan cleft

Nor
neuregulin





Nernst Eq.

$$W_e = Z F V \quad [X]_i \rightarrow [X]_o$$

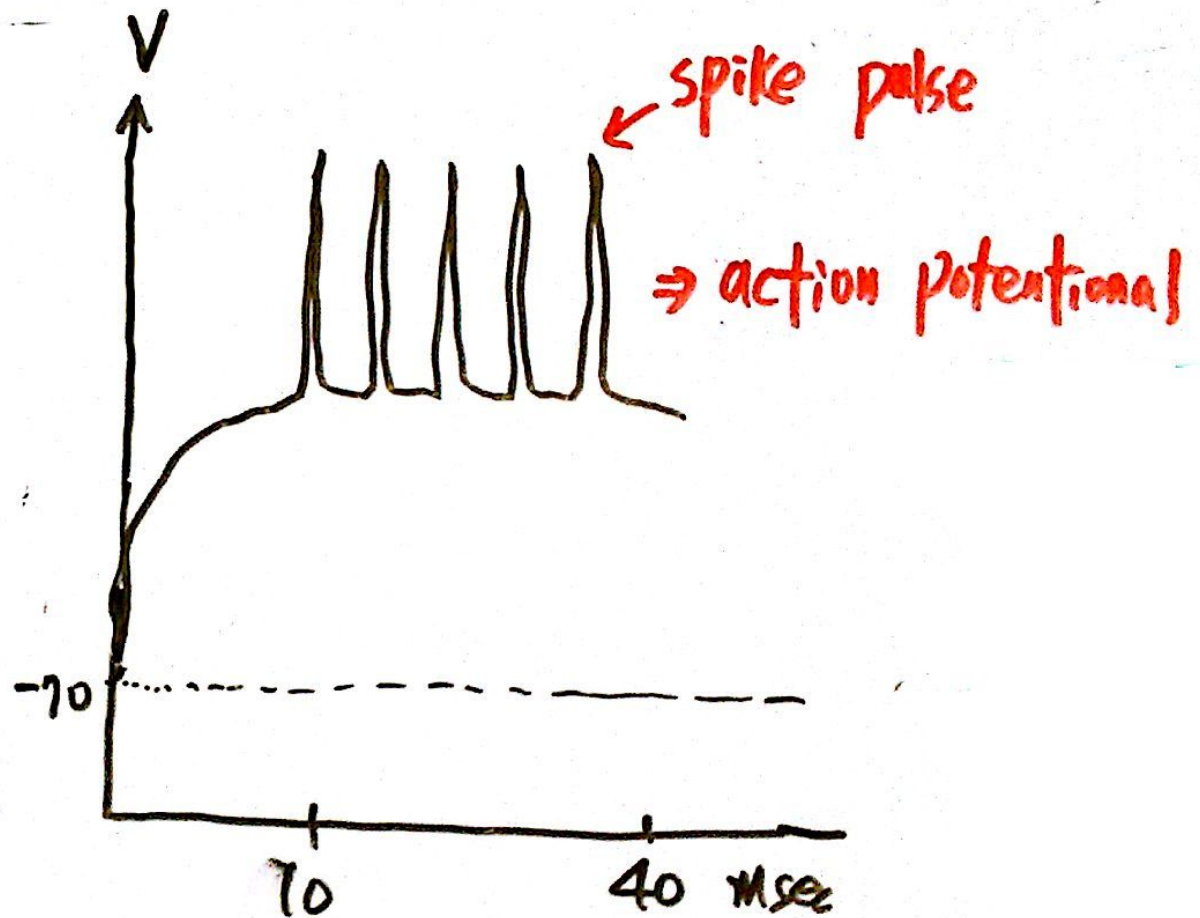
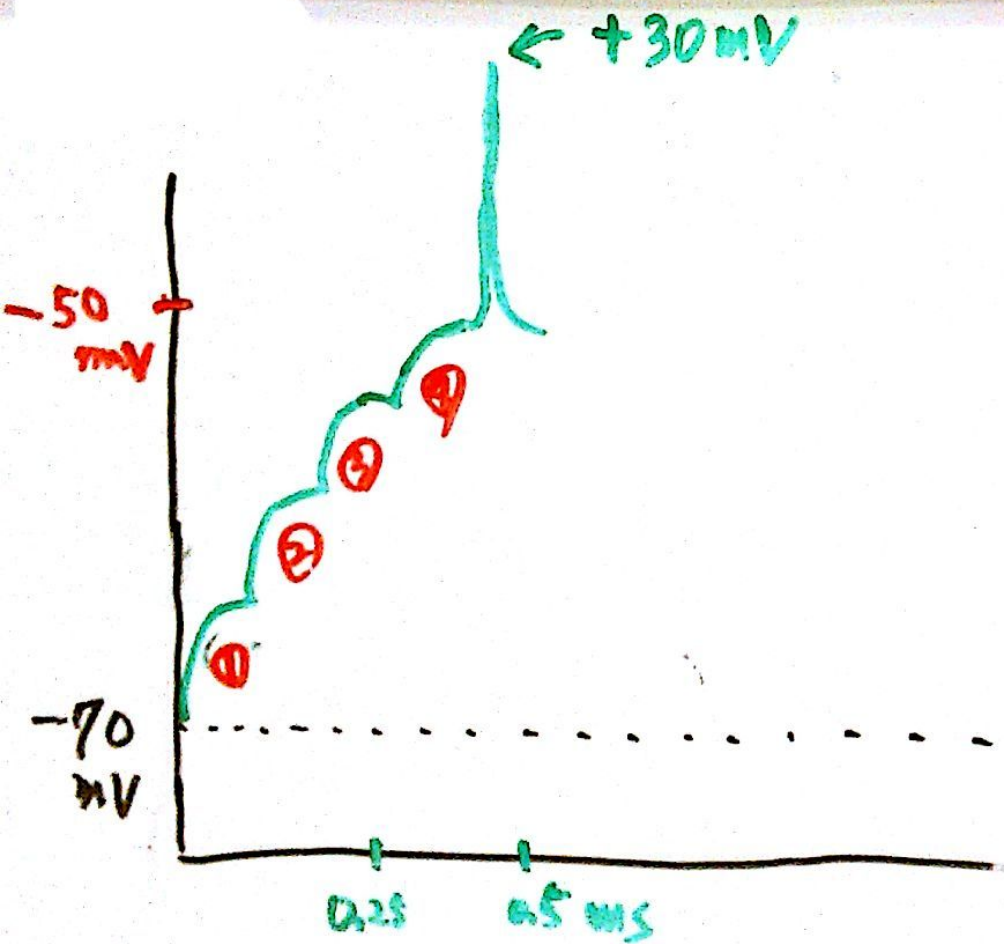
$$W_c = RT \ln \frac{[X]_o}{[X]_i} \quad W_e = W_c$$

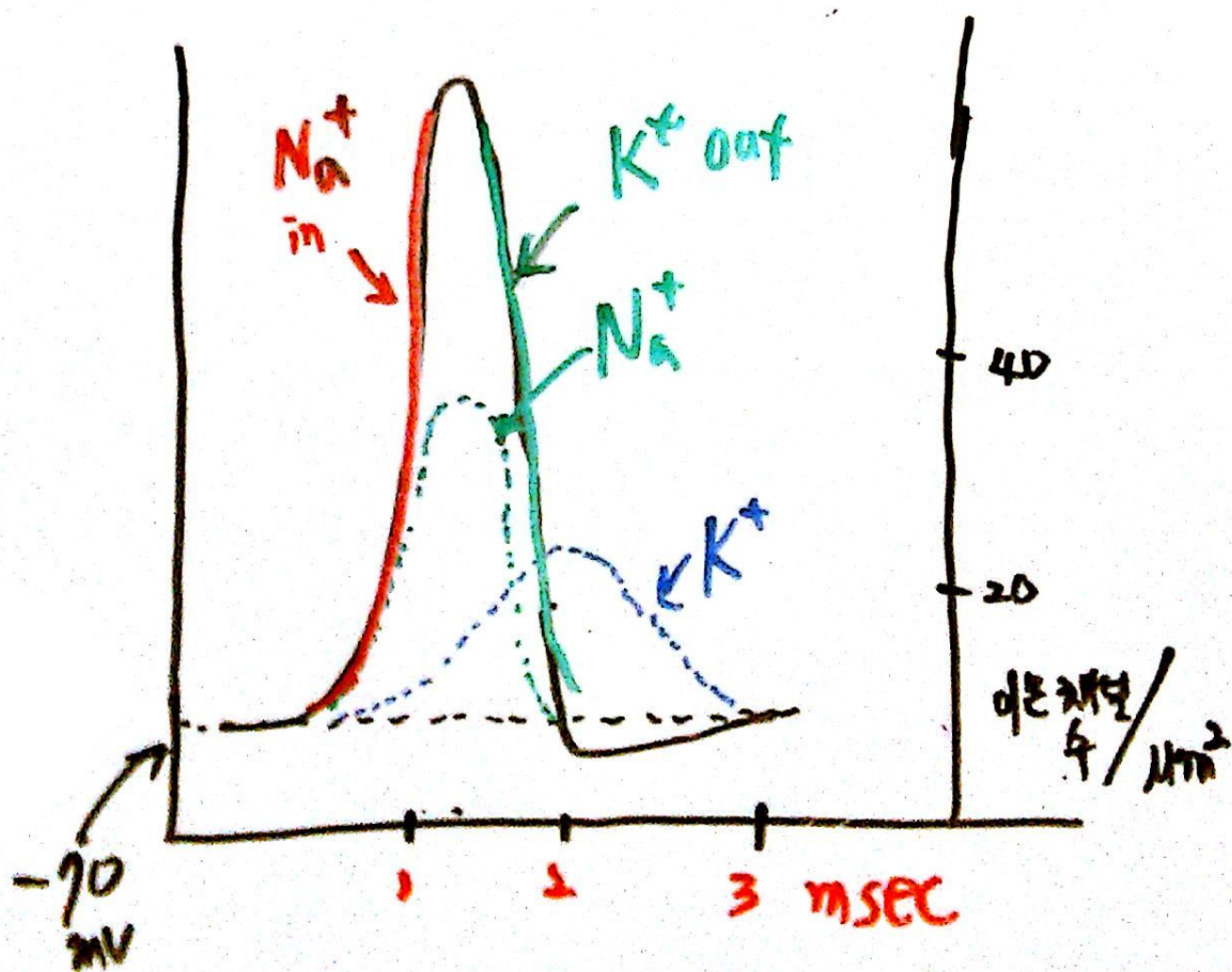
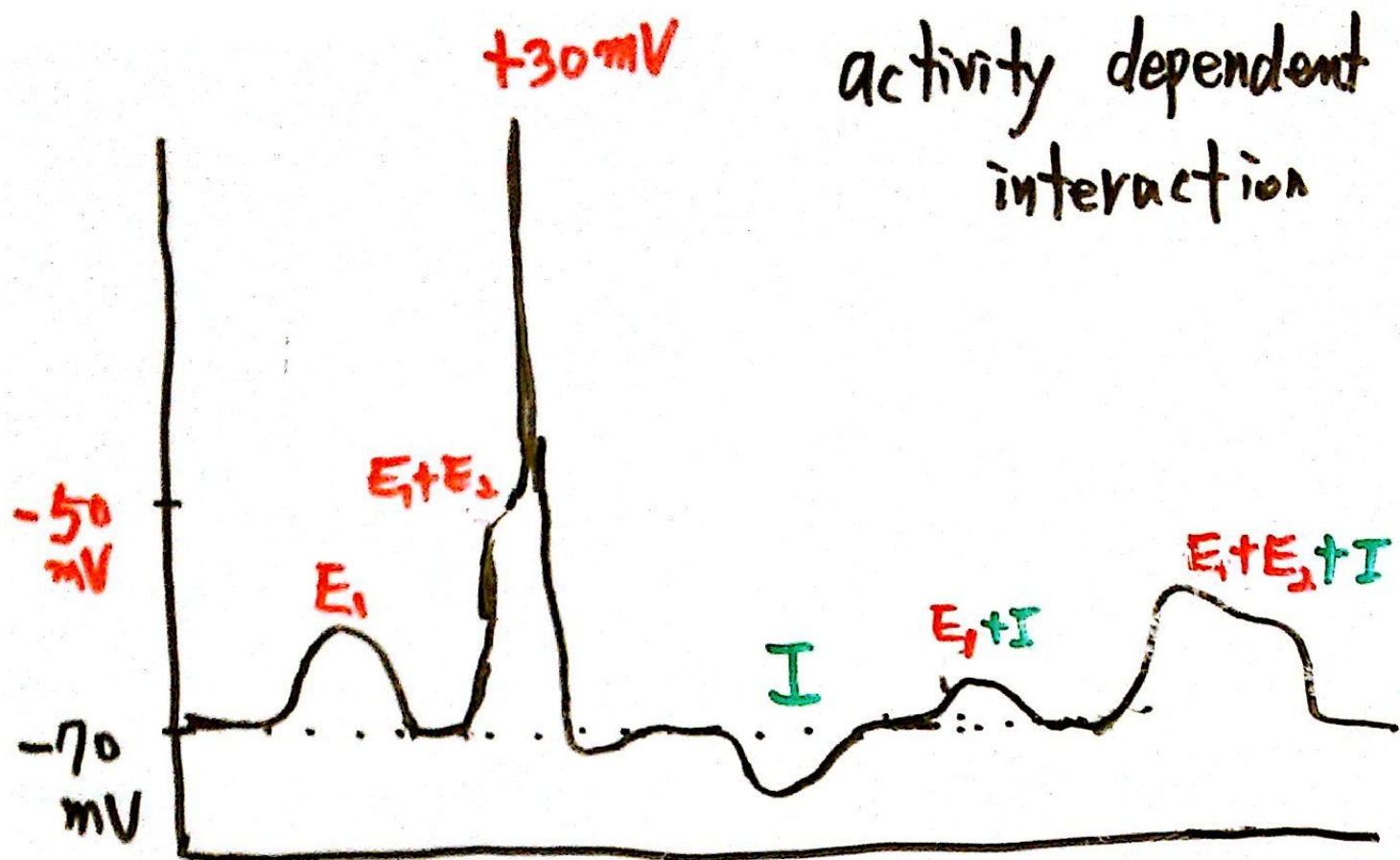
$$V_m = 61.5 \log \frac{P_K [K^+]_o + P_{Na} [Na^+]_o}{P_K [K^+]_i + P_{Na} [Na^+]_i}$$

	in	out	
			MM/liter
K^+	100	5	K^+ 40
			$Na^+ - H_2O$ 1
Na^+	15	150	

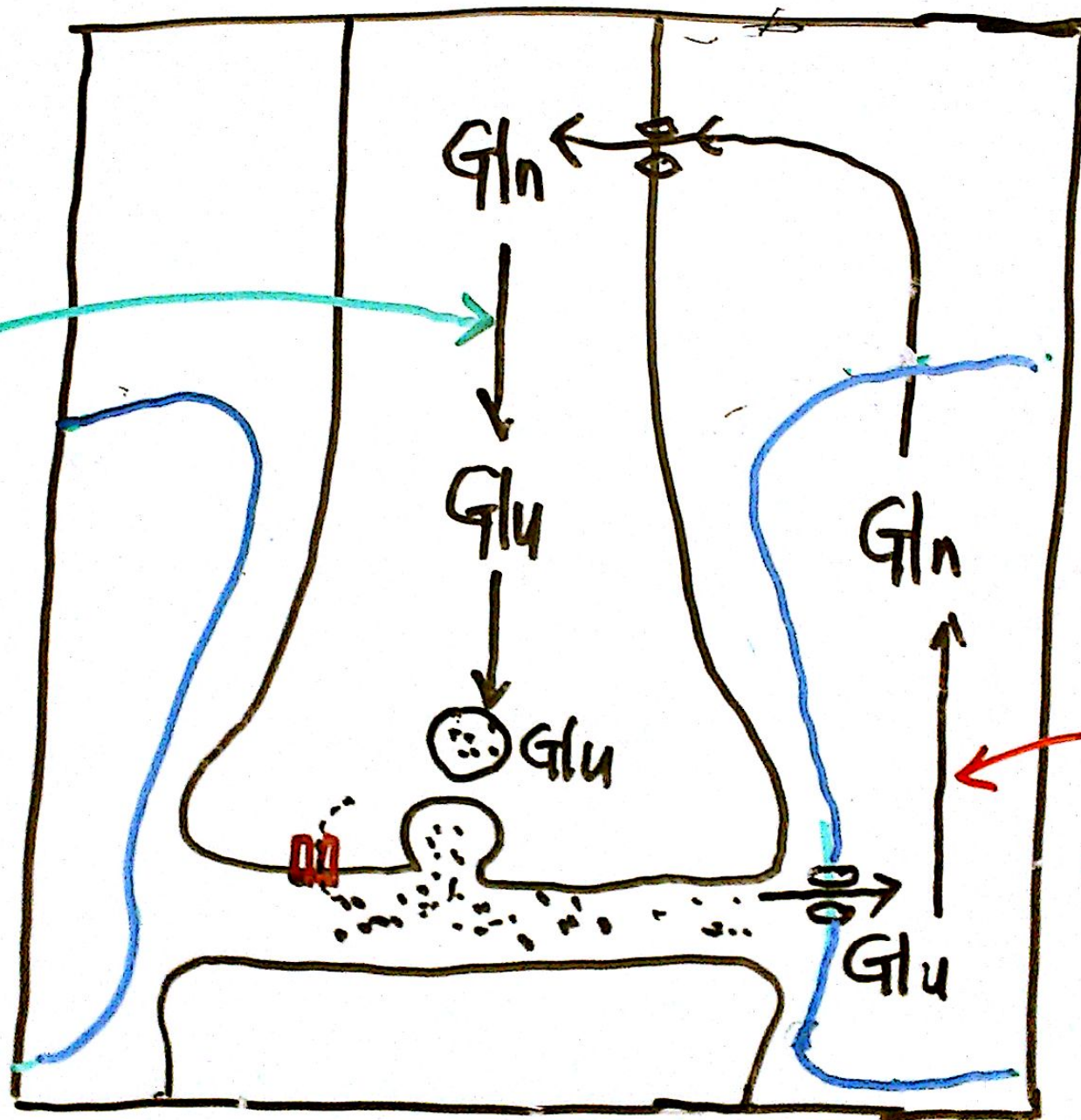
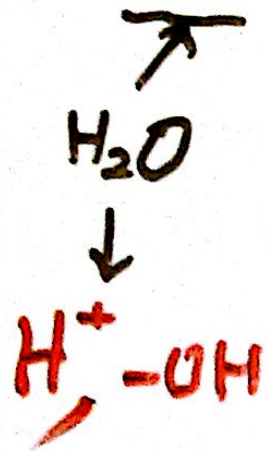


$$V_m = 61.5 \log \frac{40 \times 5 + 1 \times 150}{40 \times 100 + 1 \times 15} = -65 \text{ mV}$$

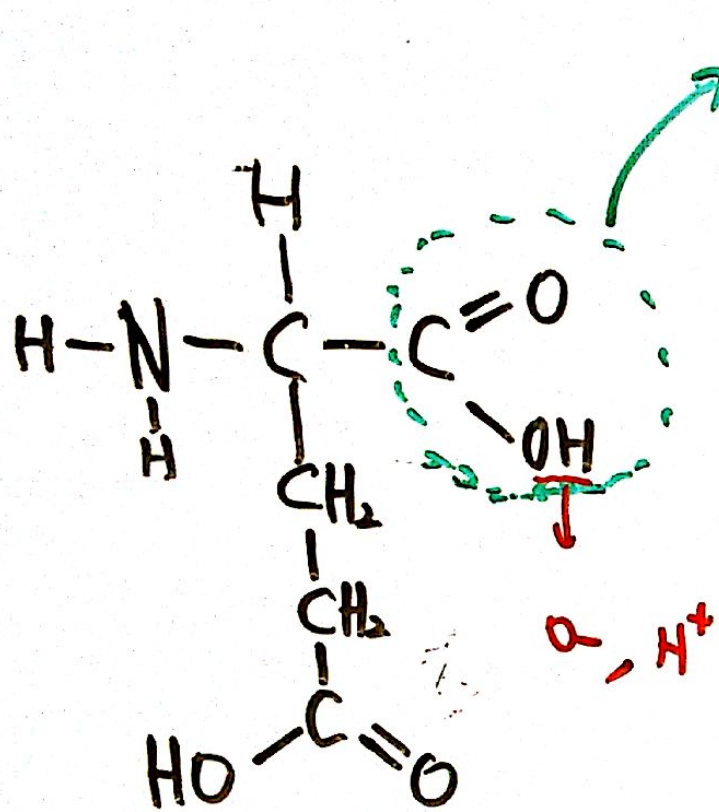




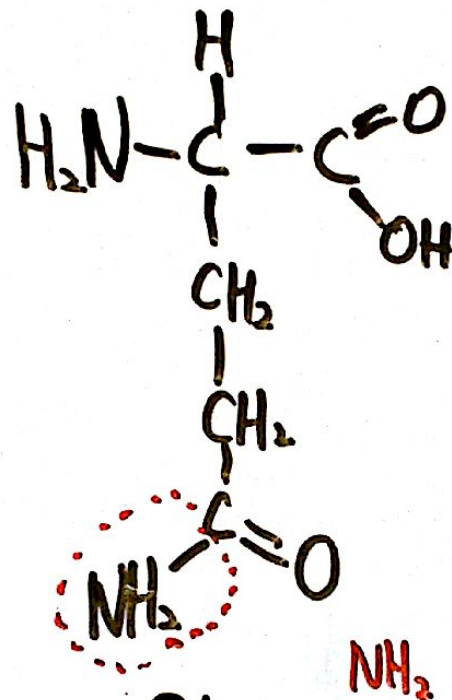
glutaminase



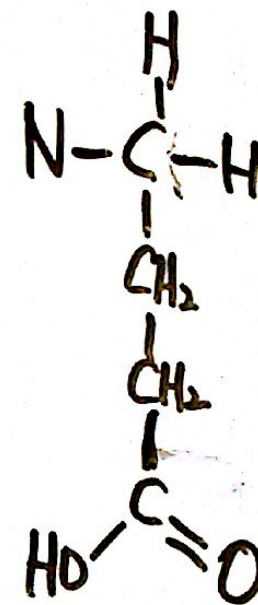
glutamine
synthetase



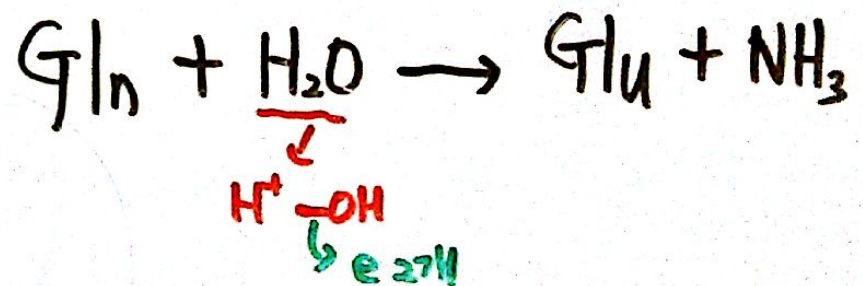
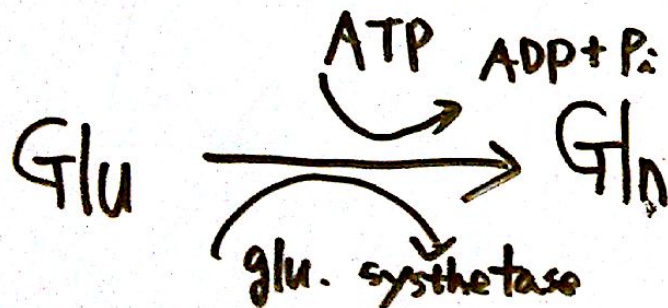
Glu
glutamate



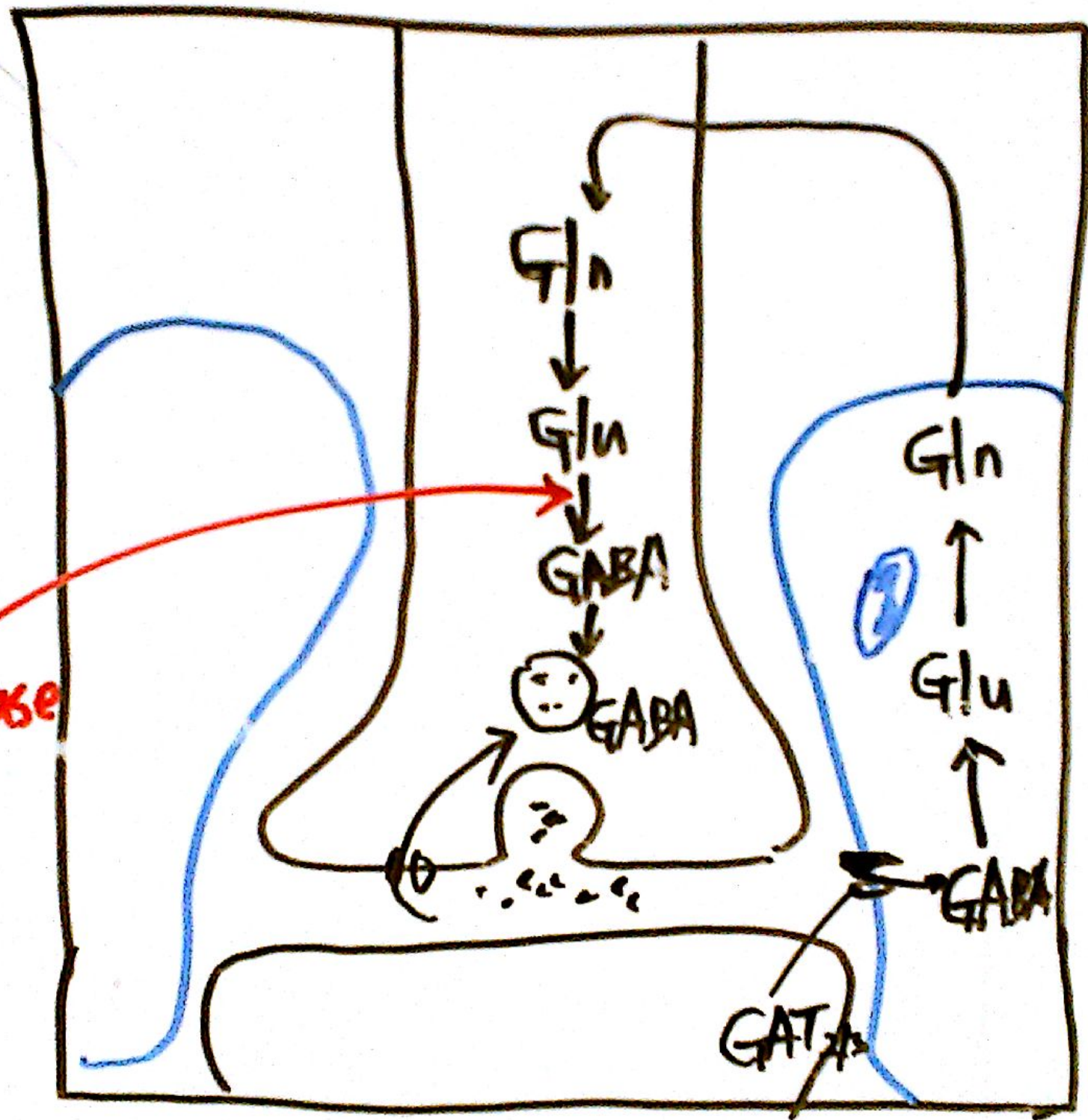
Gln
glutamine



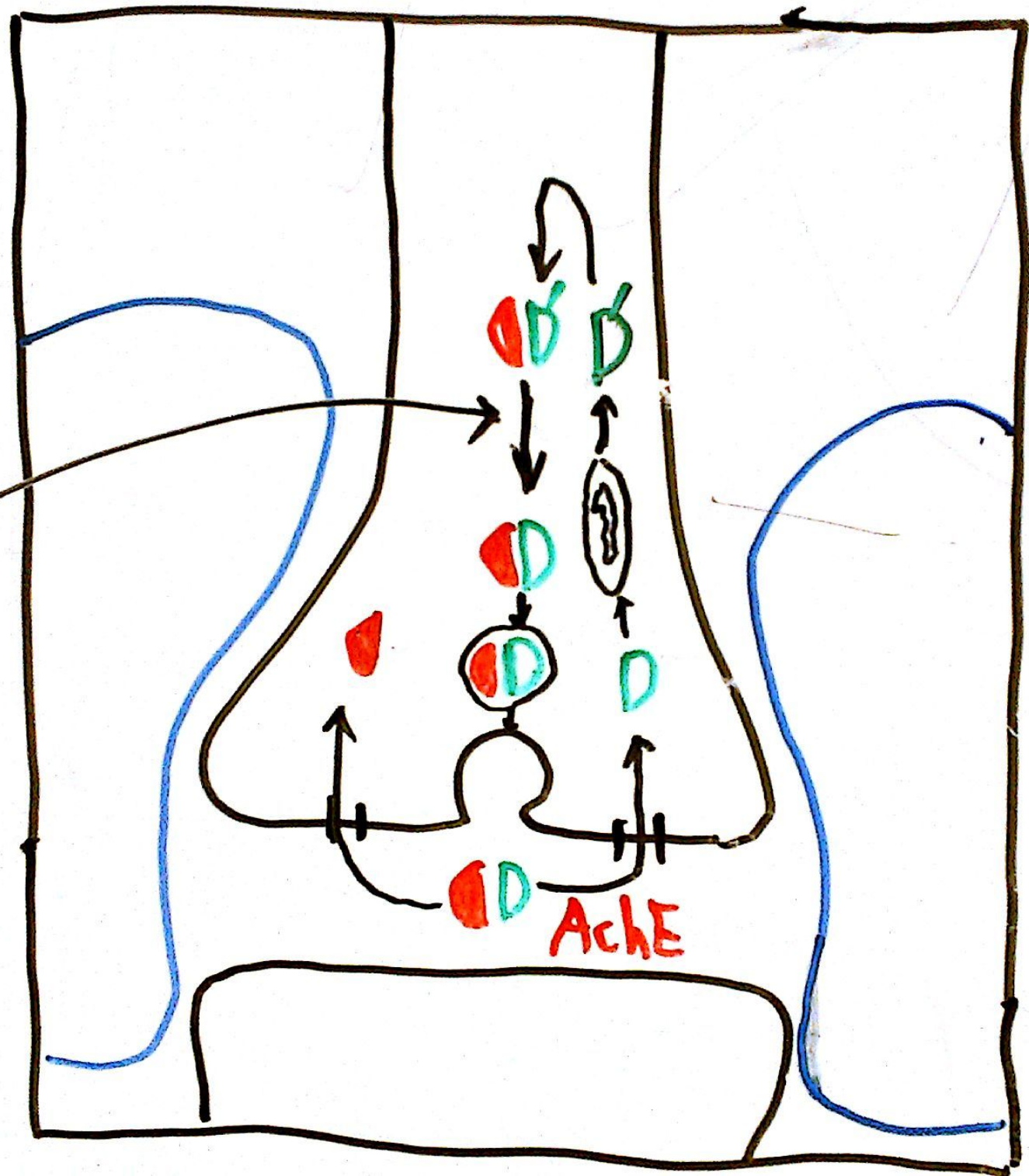
GABA

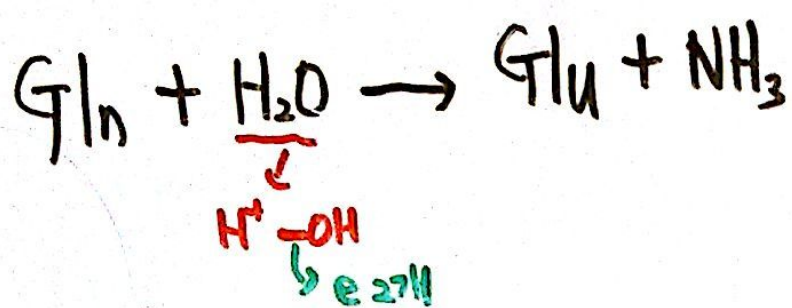


deCarboxylase

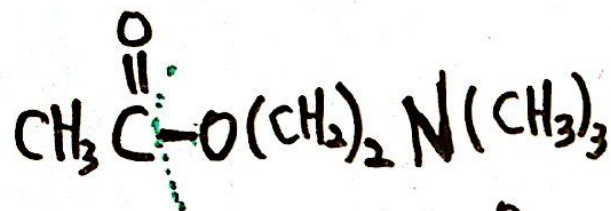


ChAT

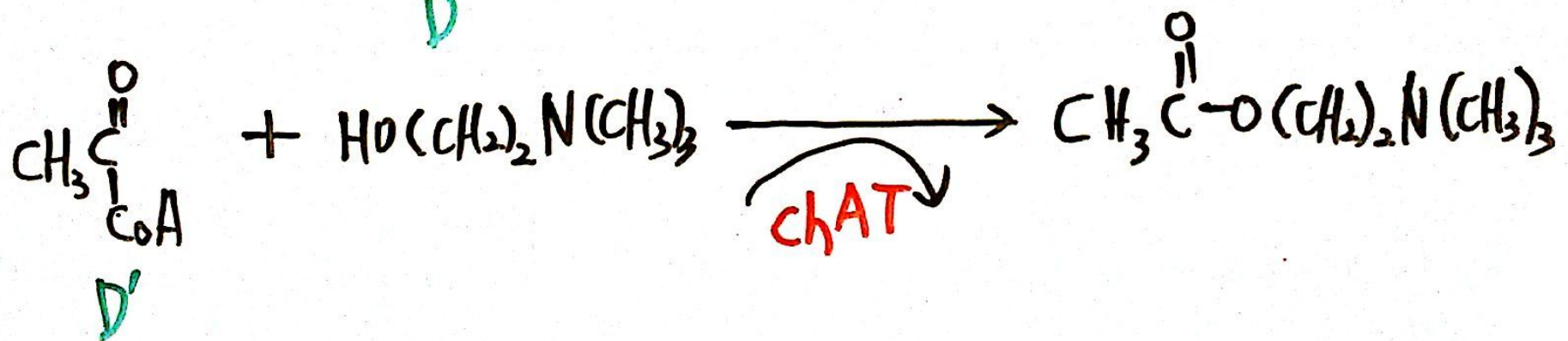
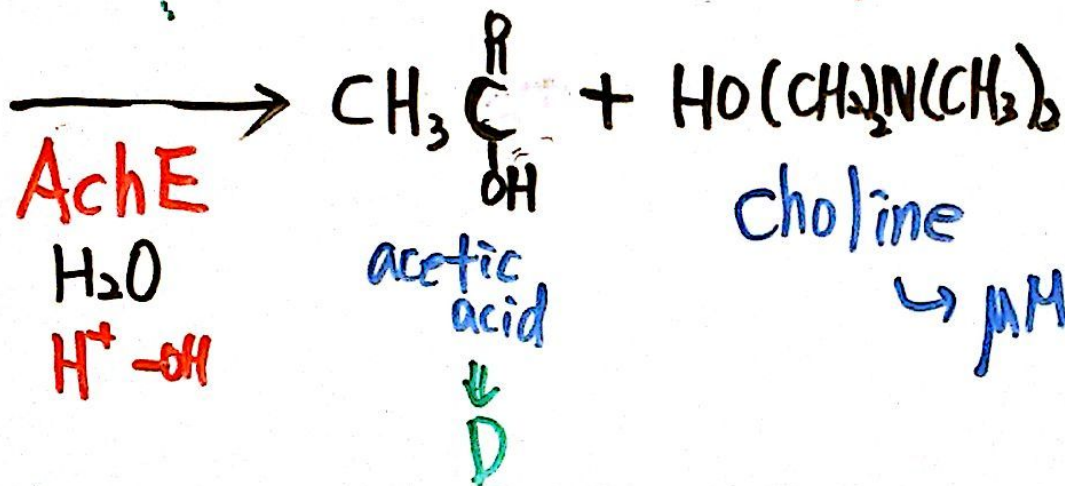




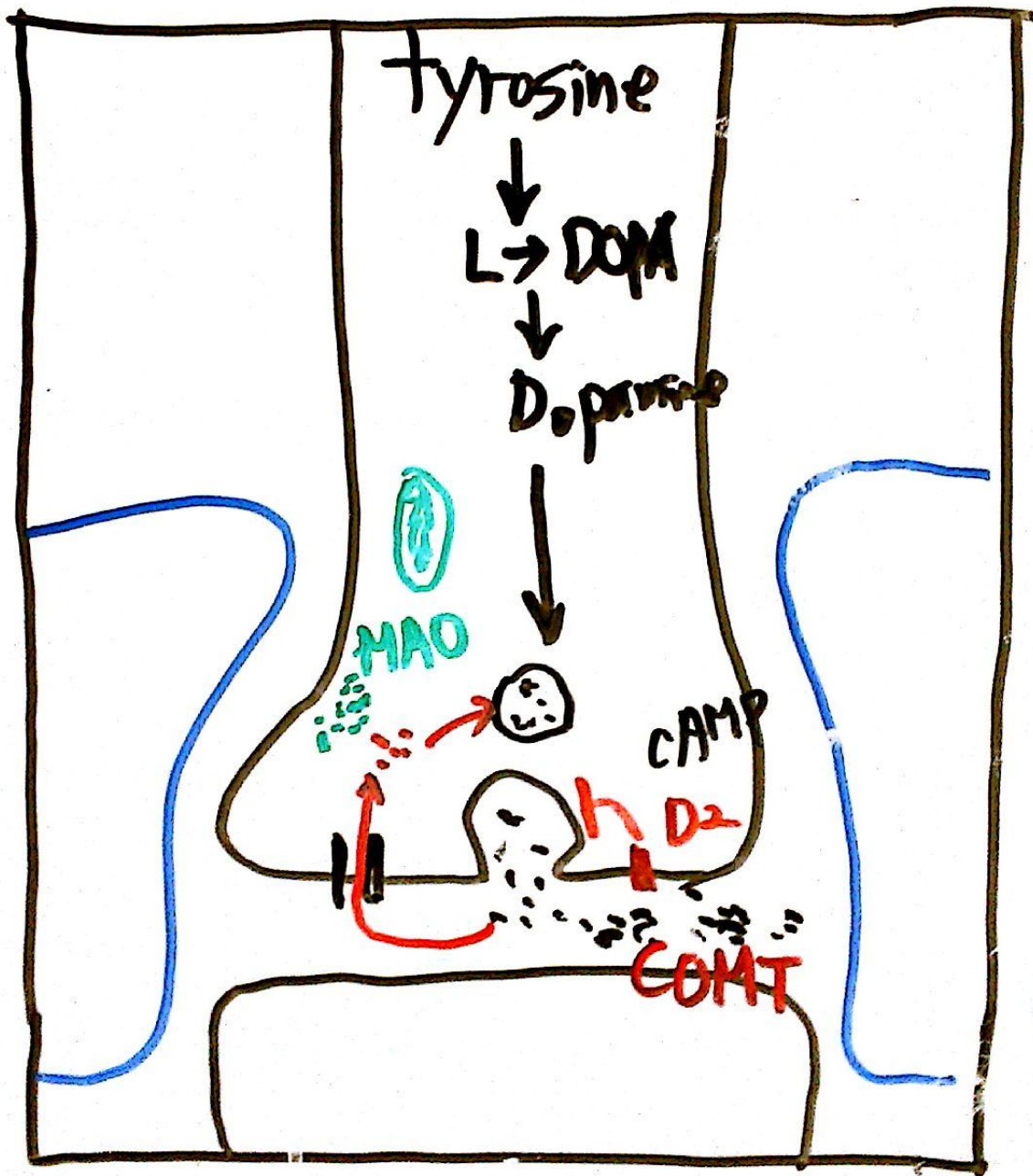
COMT \rightarrow Catechol-O-methyltransferase
 1,2 dihydroxyl benzene



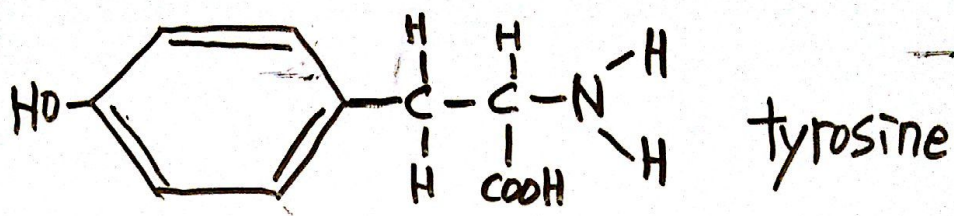
MAO \rightarrow monoamine oxidase



AChE 억제제 \rightarrow 신경계

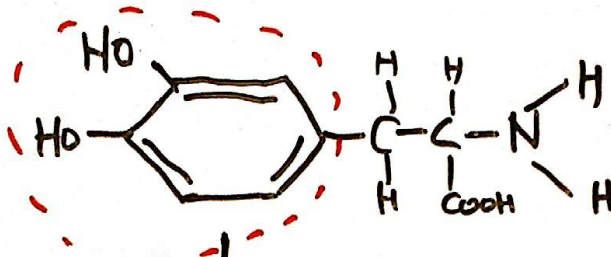


D₂, α₂, 5HT₀₅



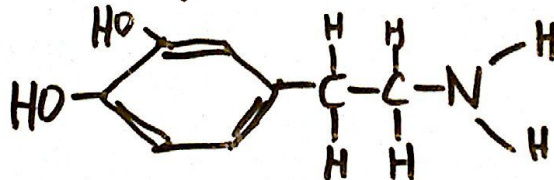
hydroxylase

"OH" "H"
hydroxyl group



L-DOPA

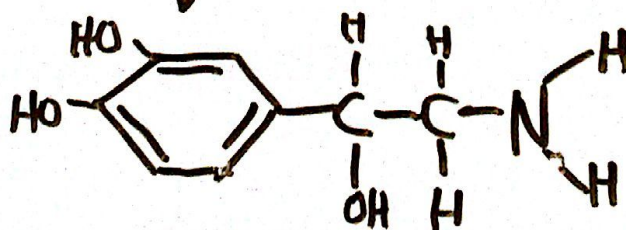
de carboxylase



Dopamine
'D'

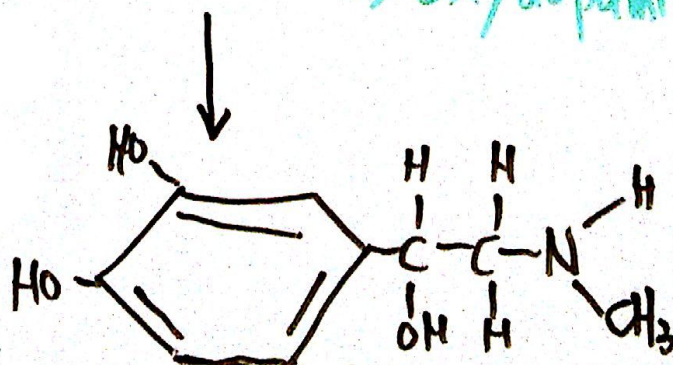
dopamine
 β -hydroxylase

DBH



not epinephrine
'NE'

\Rightarrow oxydopamine



\Rightarrow methyloxydopamine
Adrenaline
epinephrine
'N'

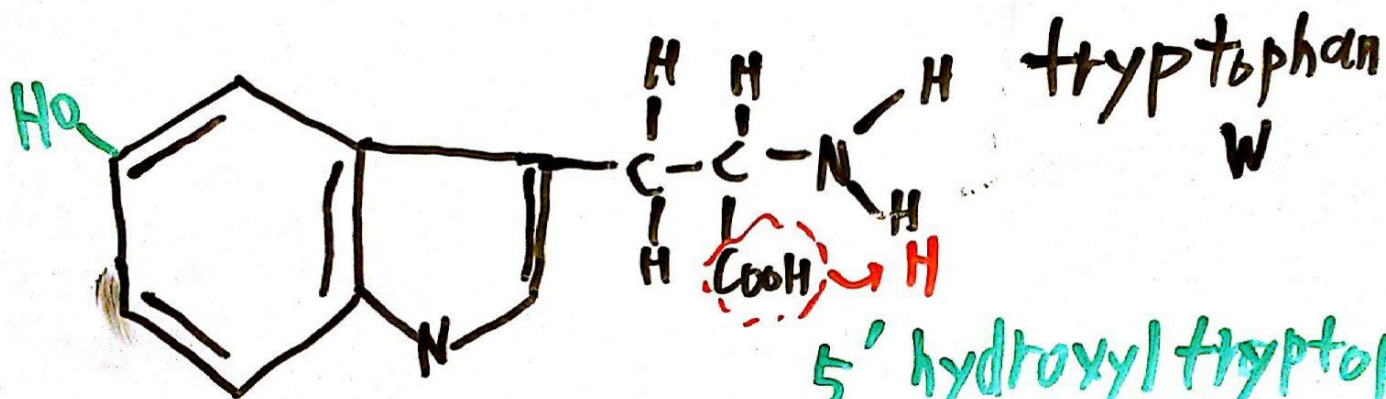
Synapse \rightleftharpoons myelin

neuron \rightleftharpoons glia

길들이 진다

하다보면 좋아진다

activity dependent
interaction



tryptophan
W

5' hydroxyl tryptophan

5'HTP

↓ de carboxylase

5' hydroxyl tryptamine

5'-HT

serotonine