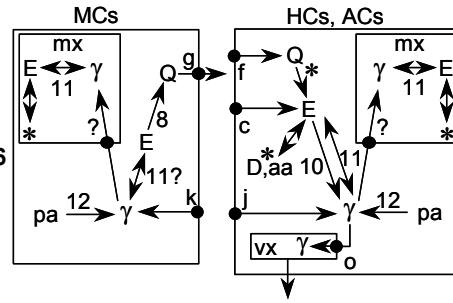
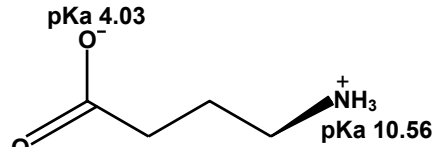


Table 2:  $\gamma$ -aminobutyric acid

4-Aminobutanoic acid  
MW:103.12  
Zwitterion at pH 7

Localization:  
HC subsets (0.5-2 mM)  
 $\gamma^+$  AC subsets (1-10 mM)  
 $\gamma^-$  AC subsets (0.04-0.5 mM, possible AC  $\rightarrow$  AC coupling leaks)  
GC subsets (0.04-0.5 mM, AC  $\rightarrow$  GC coupling leaks)  
MCs (0.08-0.5 mM  $\rightarrow$  rises in anoxia)



Metabolism: enzyme	EC	map	site	reactants	products
10 4-aminobutyrate decarboxylase	4.1.1.15	H6	m c	E	$\gamma$
11 4-aminobutyrate transaminase	2.6.1.19	H6	mx	$\gamma$ + 2-oxoglutarate	E + SSA
12 aminobutyraldehyde dehydrogenase	1.2.1.19	F6 F7 H6	c	4-aminobutanal	$\gamma$

**Transporters**

plasma membrane	TC	Localization
j GAT1	2.A.22.3.2	$\nabla$ ACs
k GAT3	2.A.22.3.2	$\nabla\Phi$ MCs
l GAT2	2.A.22.3.1	$\nabla$ RPE
m betaine	2.A.22.3.1	?
mitochondria		
n unidentified $\gamma$ porter		mim
synaptic vesicles		
o VGAT	2.A.1.14.13	$\nabla\Phi$ brain vm

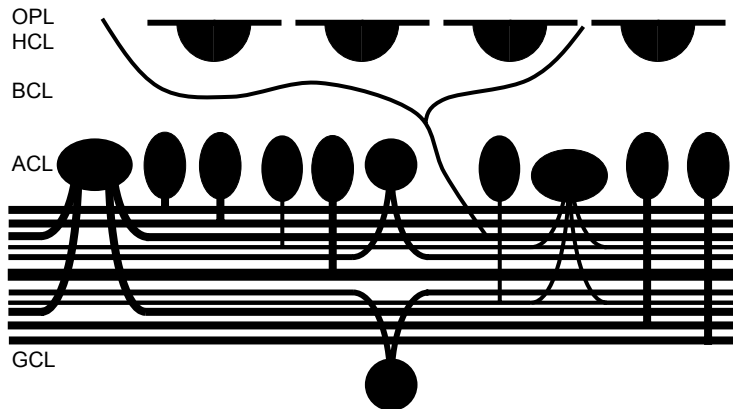
**Receptors: Ionotropic**

	TC	Subtypes	Dominant Localization
GABA <sub>A</sub>	1.A.9.5.1	$\alpha$ 1-6, $\beta$ 1-4, $\gamma$ 1-4, $\delta$ , $\epsilon$ , $\pi$ , $\theta$	$\nabla\Phi$ cones, BCs, ACs, GCs $\Phi$ HCs
GABA <sub>C</sub>	1.A.9.5.1	$\rho$ 1,2	$\nabla\Phi$ cones, BCs $\Phi$ HCs

**Receptors: Heptahelical**

	Subtypes	Dominant Localization
GPCR Class C GABA <sub>B</sub>	R1a, R1b, R2	$\Phi$ BCs (Ca channel), GCs (gK); $\nabla$ HCs, ACs

Abbreviations: see Table 1 pa: polyamines \* : links to Table 1 SSA: succinate semialdehyde  $\gamma$ : GABA



Neurons expressing GABAergic phenotypes are lateral interneurons, including a subset of or all HCs, depending on species, and most ACs, including displaced starburst ACs. GABA signals fill the inner plexiform layer with no interruption due to overlapping AC arborizations. Some GABAergic ACs are also IPCs, though their specific connectivities are unknown.