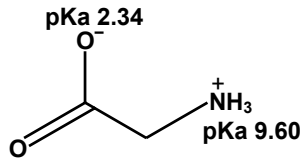
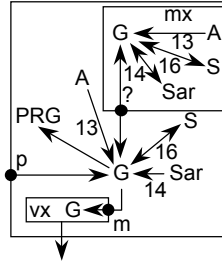


Table 3: Glycine

Aminoethanoic acid
 MW:75.02
 Zwitterion at pH 7



Localization:
 G+ ACs (≈ 1-5 mM)
 G- ACs (0.1-0.3 mM)
 ON BCs (≈ 0.5-1 mM, AC → BC coupling leak in mammals)
 class 7 GCs (≈ 0.5 mM, AC → GC coupling leak)
 all other cells <0.3 mM



Metabolism: enzyme	EC	map	site	reactants	→	products
13 alanine-glyoxylate transaminase	2.6.1.44	B7	px mx	A + glyoxalate	→	G + pyruvate
14 glycine N-methyltransferase	2.1.1.20	...	c	SAH + S	↔	G+ SAM
15 sarcosine dehydrogenase	1.5.99.1	B7	mx	Sar + acc	→	G + H ₂ C=O + acc-H
16 glycine hydroxymethyltransferase	2.1.2.1	B6	c mx	TH4 + S	↔	5,10-CH ₂ TH4 + G
17 PRamine-glycine ligase	6.3.4.13	D2	c	PRamine + G	→	PRG

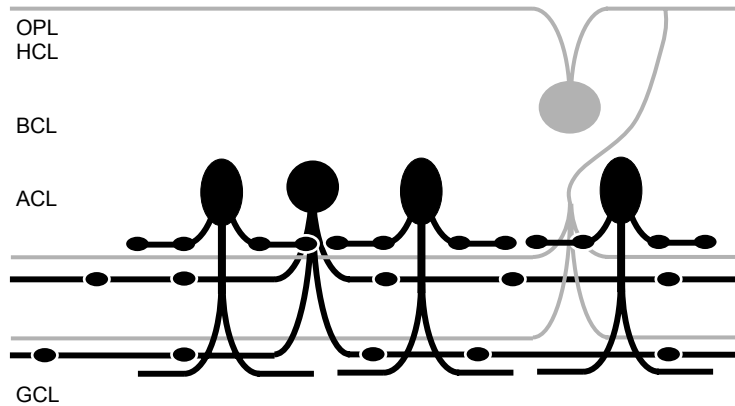
Transporters

plasma membrane	TC	Localization
p GlyT1	2.A.22.2.2	∇ ACs
q GlyT2	2.A.22.2.2	not in retina
r Low affinity	n.n.n.n.n	?
mitochondria		
s unidentified G porter		mim
synaptic vesicles		
t VIAAT	2.A.1.14.n	Φ brain vm

Receptors: Ionotropic

GlyR	TC	Subtypes	Dominant Localization
	1.A.9.3.1	α1, α2, α2*, α3, β	∇Φ BCs, ACs, GCs Φ HCs

Abbreviations: see Tables 1,2
 PR: 5-P-D-ribosyl-
 PRG: PR-glycinamide
 px: peroxisome matrix
 SAH: S-adenosyl-L-homocysteine
 SAM: S-adenosyl-L-methionine



Neurons expressing the glycinergic phenotype (high-affinity glycine transporter) in all species are ACs of several narrow-field and diffuse types, with sparse arbors forming broad distal and proximal bands in the inner plexiform layer. The circuitries of some mammalian glycinergic ACs differ markedly from non-mammalians yet are similar in shape. Many non-mammalians also have a glycinergic IPC (grey) that receives input from GABAergic HCs and targets many neuronal types in the inner plexiform layer.