

Protein function	Gene	Number of riboswitches in metagenomes (grouped by taxonomy)		
		Sargasso Sea	Minnesota Soil	Whale Falls
Glycine cleavage system T protein (aminomethyltransferase) (COG0404)	<i>gcvT</i>	$\alpha$ -Proteobacteria 59	$\alpha$ -Proteobacteria 2	$\alpha$ -Proteobacteria 3
<b>Malate synthase (COG2225)</b>	<b><i>glcB</i></b>	$\beta$ -Proteobacteria 1		$\gamma$ -Proteobacteria 3
		$\gamma$ -Proteobacteria 1		$\beta$ -Proteobacteria 1
Glycine/D-amino acid oxidase (deaminating) (COG0665)	<i>dadA</i>	$\alpha$ -Proteobacteria 22		-
		$\gamma$ -Proteobacteria 2		-
Na <sup>+</sup> /alanine symporter (COG1115)	<i>alsT</i>	$\alpha$ -Proteobacteria 2		$\beta$ -Proteobacteria 1
Glycine cleavage system protein P (pyridoxal-binding), C-terminal domain (COG1003)	<i>gcvP</i>	$\gamma$ -Proteobacteria 1		-
L-serine deaminase (COG1760)	<i>sdaA</i>	$\beta$ -Proteobacteria 1	$\gamma$ -Proteobacteria 1	-
<b>Phosphoserine aminotransferase (COG1932)</b>	<b><i>serC</i></b>	-		Bacteria 1
<b>Uncharacterized conserved protein (COG4198)</b>	-	Bacteria 1		-
Unknown function		Firmicutes 5		-
		-		-
		-		1

Additional file 5: Glycine riboswitches and their regulated functions identified in three metagenomes. New functions are set in boldface.