

Protein function	Gene	Number of riboswitches in metagenomes (grouped by taxonomy)			
		Sargasso Sea	Minnesota Soil	Whale Falls	
ABC-type thiamine transport system, periplasmic component (COG4143)	<i>thiB</i>	4 α-Proteobacteria	1 γ-Proteobacteria	2 α-Proteobacteria	
Thiamine biosynthesis protein ThiC (COG0422)	<i>thiC</i>	13 γ-Proteobacteria Bacteria	1 Bacteria	2 γ-Proteobacteria	
		3 γ-Proteobacteria	4 Bacteria	4 γ-Proteobacteria	
		2 β-Proteobacteria	2 α-Proteobacteria	2 α-Proteobacteria	
Outer membrane receptor proteins, mostly Fe transport (COG1629)	<i>btuB</i>	1 Cyanobacteria	1 Bacteria	1 Bacteria	
		9 γ-Proteobacteria	1 Bacteroidetes/ Chlorobi	1 Bacteroidetes/ Chlorobi	
ABC-type nitrate/sulfonate/bicarbonate transport system, periplasmic component (COG0715)	<i>tauA</i>	2 α-Proteobacteria	-	-	
ABC-type nitrate/sulfonate/bicarbonate transport system, ATPase component (COG1116)	<i>tauB</i>	2 Firmicutes	-	-	
ABC-type nitrate/sulfonate/bicarbonate transport system, permealase component (COG0600)	<i>tauC</i>	1 Firmicutes	-	-	
Hydroxyethylthiazole kinase, sugar kinase family (COG2145)	<i>thiM</i>	2 α-Proteobacteria	1 α-Proteobacteria	-	
Na ⁺ /proline, Na ⁺ /panthothenate symporters and related permeases (COG0591)	<i>panF</i>	1 Bacteria	-	-	
		1 α-Proteobacteria	-	-	
Thiamine pyrophosphokinase (COG1564)	<i>thiS0</i>	-	2 Bacteria	-	
Hydroxymethylpyrimidine/phosphomethylpyrimidine kinase (COG0351)	<i>thiD</i>	-	-	1 α-Proteobacteria	
Unknown function		1 No ORF	-	-	
		8 No similar proteins	2	2	
		8 End of DNA fragment	-	2	

Additional file 4: Thiamine riboswitches and their regulated functions identified in three metagenomes.