

Table 4 - Comparison between the presence (+) or absence (-) of enzymes in acid-tolerant organisms and alkaliphilic (non-acid-tolerant organisms), in acid-tolerant experiments. Each row represents enzymes identified by NIBBS and their corresponding pathways. Acid-tolerant organisms: *Clostridium acetobutylicum* (cac**), *Clostridium beijerinckii* (**cbe**), *Clostridium perfringens* (**cpf**), *Lactobacillus casei* (**lca**), *Lactobacillus plantarum* **JDM1** (**lpi**), *Lactobacillus plantarum* **WCFS1** (**lpl**), *Streptococcus mutans* (**smu**), *Gluconacetobacter diazotrophicus* (**gdj**), *Pediococcus pentosaceus* (**ppe**). Non-acid-tolerant (alkaliphilic) included: *Bacillus halodurans* (**bha**), *Desulfurivibrio alkaliphilus* (**dak**), *Ocenobacillus iheyensis* (**oih**), *Bacillus pseudofirmus* (**bpf**), *Alkaliphilus metallireducens* (**amt**), *Alkaliphilus oremlandii* (**aoe**), *Alkalimimicola ehrlichei* (**aeh**), *Bacillus clausii* (**bcl**).**

EC Number	Enzyme Name	Pathway	Name	Organisms										Alkaliphilic						
				Acid-tolerant					Alkaliphilic											
				cac	cbe	cpf	lca	lpi	lme	smu	gdj	ipe	bha	dak	oih	bpf	amt	aoe	aeh	bcl
3.5.1.14	aminoacylase	Arginine and proline metabolism		+	+	-	+	-	+	-	-	-	-	-	-	+	-	-	-	+
3.5.4.4	adenosine deaminase	Purine metabolism		+	-	+	-	+	+	+	+	-	-	-	-	-	-	-	-	-
4.1.1.15	glutamate decarboxylase	Taurine and hypotaurine metabolism		-	-	+	-	+	-	-	-	-	-	-	-	-	-	-	-	-