SUPPLEMENTARY MATERIAL

Characterization of an Eukaryotic PL-7 Alginate Lyase in the Marine Red Alga Pyropia yezoensis

Akira Inoue, Chieco Mashino, Toshiki Uji, Naotsune Saga, Koji Mikami and Takao Ojima

Graduate School of Fisheries Sciences, Hokkaido University, 3-1-1 Minato-cho Hakodate, Hokkaido 041-8611, Japan

	PA-F1																			
GGGCTCGGCCCTTCGTTTCGGCATAGGAGCACACACGCCGCCTTCCCACCAGTGC 6														60						
AAC	CATG	ATG	CGC	CTTI	'GCC	ATA	.GCC	CGCC	CGCG	CTO	GGG1	GCT	'TTG	CTG	GGCC	GTT	'GCG	GCC	GCC	120
	M	M	R	F	A	I	Α	A	A	L	G	A	L	L	A	V	A	A	A	19
CCC	CGCC	GCG	GTG	GCC	CGCC	GCC	CGC	CAGO	GCCG	CCA	ATGO	SGAC	TTA	'GC'I	CGC	TTC	CGC	CCC	GCT	180
P	A	A	V	A	A _	A	R	R	P	P	W	D	I	Α	R	F	R	P	A	39
CTA	AAGA	GTT	'GCC	CAAG	CTC	CAG	GCG	GCCC	CGAC	AGC	CGTC	CCAA	.CGC	AAA	AGAI	'GTG	CGA	TCC	TTC	240
L	R	V	A	K	L	Q	Α	P	D	S	V	Q	R	K	D	V	R	S	F	59
CCAAACTTTCAAGCCGACCACTTTTACTCTGAGAACCGGGACATGGTGTTTGTCATGGGT														GGT	300					
P	N	F	Q	A	D	H	F	Y	S	E	N	R	D	M	V	F	V	M	G	79
GGC	GGCGACTCACAACGGTCCGAGCTCCGCTTCCTCGACGAGTGGAGCGTCCGCACATCCAGT																360			
G	D	S	Q	R	s	E	L	R	F	L	D	E	W	S	V	R	T	S	S	99
																			TTC	420
T	R	R	М	V	G	V	L	T	L	P	T	P	L	R	G	M	K	H	F	119
ACGTGGATGCAGGTGCACGGGGGCAGCAAGGGGAAAAAACCGCTGCTGCGCCTGTCGTGG															480					
T	W	М	Q	V	Н	G	G	S	K	G	K	K	P	L	L	R	L	S	W	139
	_																		CGG	540
Н	D	K	R	E	Q	G	G	K	D	L	R	N	T	M	L	A	T	V	R	159
CTCAACAACAAGTCAGGCGACGCCGGGCGGTTCAAGAAGATCGTGTTGGGAACCCGCCCC														600						
L	N	N	K	S	G	D	A	G	R	F	K	K	Ι	V	L	G	T	R	P	179
TCTGGCCGCTTTGTTGCCGACGTACGGGTAGAGCGGTCACGGCTGACCGTCCGCCTCAAC															660					
S	G	R	F	V	Α	D	V	R	V	E	R	S	R	L	T	V	R	L	N	199
																			AAG	720
G	R	K	L	V	D	E	D	V	G	Y	W	T	Y	S	T	N	Y	F	K	219
_						0110													FACT	780
A	G	V	Y	V	Q	E	G	S	P	D	A	R	V	V	F	H	G	L	T	239
0 - 0															840					
•	v s ∗ PA-R2															241				
AAA														876						
			•			ŀ	PA-F	1												

Fig. (S1). Nucleotide and the deduced amino-acid sequences of PyAly cDNA. The nucleotide and the deduced amino acid sequences are represented in plain and bold letters, respectively. Dashed line shows the predicted signal peptide sequence. Arrows indicate the annealing positions of primers used in PCR.

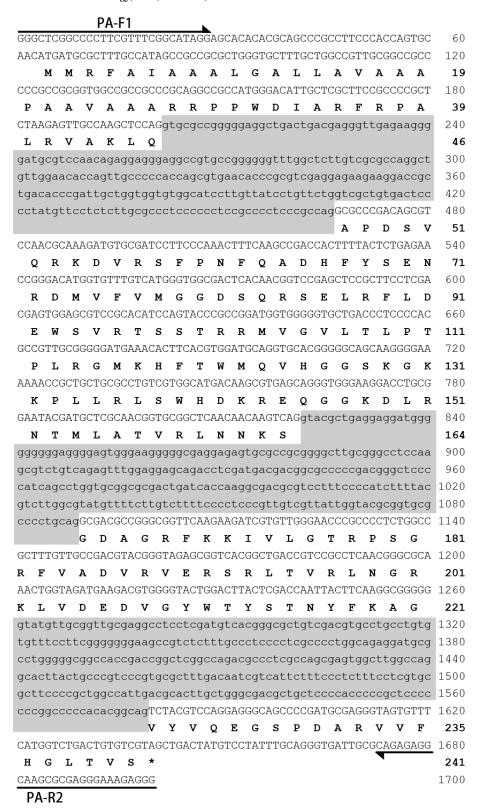


Fig. (S2). Genomic DNA sequence of PyAly. Nucleotide and deduced amino acid sequences are each represented in plain and bold letters. Exon and intron regions are written in capital and small letters, respectively. Arrows indicate the annealing positions of primers used in PCR.