

***hps4.L* transcripts**


					
			exon 1	exon 2	
(+/+)	1	ATGGCATCCTCTATTCC	ACTGAAACACAGGCCAGCATCATG	GTTGAATTATTCTTTCTTTACGATGGATCAAAGGTGAGAGGTGAAGGTGATCCCACCA	100
(a ^p /a ^p)	1	ATGGCATCCTCTATTCC	ACTGAAACACAGGCCAGCATCATG	GTTGAATTATTCTTTCTTTACGATGGATCAAAGGTGAGAGGTGAAGGTGATCCCACCA	100
			exon 3		
(+/+)	101	GTGTTGGTATAAAATTA	CTTCTACCCACACAGACAATCCTTGACCAGCAGGAATTGCTGTGTGGTCAAATTCAGGTGTTGTCCGTTGTATGACTGAGAT		200
(a ^p /a ^p)	101	GTGTTGGTATAAAATTA	CTTCTACCCACACAGACAATCCTTGACCAGCAGGAATTGCTGTGTGGTCAAATTCAGGTGTTGTCCGTTGTATGACTGAGAT		200
			exon 4		
(+/+)	201	CACCAACTCTTCTCCCA	ACCTTATACGACTACGCAAACCTGAAATTTGCCATTGTCGTTGATGGGGACTATTTGTGGGCTCTTGGGTGTTTCAGTAGATGTT		300
(a ^p /a ^p)	201	CACCAACTCTTCTCCCA	ACCTTATACGACTACGCAAACCTGAAATTTGCCATTGTCGTTGATGGGGACTATTTGTGGGCTCTTGGGTGTTTCAGTAGATGTT		300
			exon 5		
(+/+)	301	GCAGATGTCAGTTGCA	AGCACTTCTTACAAGAACTAATTTGGGCTGTTCTGTTCTATAATGGACCTTTGCGGGATGCCTATGAGGTCCGTTTCACAGGCTG		400
(a ^p /a ^p)	301	GCAGATGTCAGTTGCA	AGCACTTCTTACAAGAACTAATTTGGGCTGTTCTGTTCTATAATGGACCTTTGCGGGATGCCTATGAGGTCCGTTTCACAGGCTG		400
			exon 6		
(+/+)	401	AGCTAAGCAACGAATG	GAATCTTTACATTGAATTCATTTCAGAACACCAGCACCAGCTACACAGGATCTTCAATTCCTGAGTCATCTTGATAAAACTAA		500
(a ^p /a ^p)	401	AGCTAAGCAACGAATG	GAATCTTTACATTGAATTCATTTCAGAACACCAGCACCAGCTACACAGGATCTTCAATTCCTGAGTCATCTTGATAAAACTAA		500
			exon 6		
(+/+)	501	AGTAGACCTCTCCTAT	TGCTGAAAGCTGCCCTCATTTTGCAGACCTGCCAGAGATTTCCCTTACATCCTAGCTGGCTGCATTCTCTACAAAAATCA	TATA	600
(a ^p /a ^p)	501	AGTAGACCTCTCCTAT	TGCTGAAAGCTGCCCTCATTTTGCAGACCTGCCAGAGATTTCCCTTACATCCTAGCTGGCTGCATTCTCTACAAAAATCA	----	596
			exon 7	exon 8	
(+/+)	601	GTGAGTACCCAGCTGC	CCCTTCAATCACTTCCAAGATATTGATTTCAGAGGGTTGGTCTTGTTCAAAGTCCATCATCTGTGAACAATCAGG	ATGCAGAGT	700
(a ^p /a ^p)	596	-----	-----	-----	ATGCAGAGT
			exon 9	exon 10	
(+/+)	701	TACCCAGGATGCTGT	ATGATCCCTGTATTGTGAATTTGAAATGAAATAACTTCACTTCGCCACTACCTGCCGAGTGGATGACAAGAATGCCACACC		800
(a ^p /a ^p)	606	TACCCAGGATGCTGT	ATGATCCCTGTATTGTGAATTTGAAATGAAATAACTTCACTTCGCCACTACCTGCCGAGTGGATGACAAGAATGCCACACC		705
			(stop)		
(+/+)	801	TTCAAGAACATTTGTC	AACGCTTGGCAAAAACTGCAGGAAACCAGTTTCCAGTCTCAGAGGATGGTACTCAGGAAGGAATAACTGGAGGCGGGGAATCT		900
(a ^p /a ^p)	706	TTCAAGAACATTTGTC	AACGCTTGGCAAAAACTGCAGGAAACCAGTTTCCAGTCTCAGAGGATGGTACTCAGGAAGGAATAACTGGAGGCGGGGAATCT		805
			exon 9		
(+/+)	901	TTTCCAGTGCACCTT	CCAACAGAGACTCCAATACAAGGAGCAGGTGCAGGTTTACTCGTTGACAAAAGTGTAGAATTCGCCCTCCTAAGCTTAATGA		1000
(a ^p /a ^p)	806	TTTCCAGTGCACCTT	CCAACAGAGACTCCAATACAAGGAGCAGGTGCAGGTTTACTCGTTGACAAAAGTGTAGAATTCGCCCTCCTAAGCTTAATGA		905
			exon 9		
(+/+)	1001	CAGACAGCCCAATGCA	ATGTTTCAATCACCATTAAACCAGGAAAGGACCAGGCAATCCAAGGAACCAAAATCATCTGGTGGTAAACCAGTAAAGGCACACAG		1100
(a ^p /a ^p)	906	CAGACAGCCCAATGCA	ATGTTTCAATCACCATTAAACCAGGAAAGGACCAGGCAATCCAAGGAACCAAAATCATCTGGTGGTAAACCAGTAAAGGCACACAG		1005
			exon 9		
(+/+)	1101	TGATATCAACTCTTCC	CTGTATAATTTGGTCTAATTTGTTCCGAAGCAGAAGGCTATATCAGAAGAGACAGAGGATAATAACGACATTAACCGAGAGCGT		1200
(a ^p /a ^p)	1006	TGATATCAACTCTTCC	CTGTATAATTTGGTCTAATTTGTTCCGAAGCAGAAGGCTATATCAGAAGAGACAGAGGATAATAACGACATTAACCGAGAGCGT		1105
			exon 9		
(+/+)	1201	TTATCTACCGGTAGCT	TTGCAACGTTGATTCTGTGATGGAATTTGAGACTAAAGAGGATGGACTGGAACATTTGAGGACTATGTTCCAGTGTCTCTGA		1300
(a ^p /a ^p)	1106	TTATCTACCGGTAGCT	TTGCAACGTTGATTCTGTGATGGAATTTGAGACTAAAGAGGATGGACTGGAACATTTGAGGACTATGTTCCAGTGTCTCTGA		1205
			exon 9		
(+/+)	1301	AAGATAATACCAGTACT	GAAGACCAACAGATAGTTGTGAACAGTCCATACTGTTAGGGAAGCCTGAAAGTGTGAGTACAGAAAAGACAACACAGAATT		1400
(a ^p /a ^p)	1206	AAGATAATACCAGTACT	GAAGACCAACAGATAGTTGTGAACAGTCCATACTGTTAGGGAAGCCTGAAAGTGTGAGTACAGAAAAGACAACACAGAATT		1305
			exon 9		
(+/+)	1401	TAATACCAACGACAGC	ACCTTAGACAAAAGTTCAACATCAAGTCAAACAACAGATATCGGTTTTTACCAAAAGGTTTTTGGGGTGACAGACTGGTCATTA		1500
(a ^p /a ^p)	1306	TAATACCAACGACAGC	ACCTTAGACAAAAGTTCAACATCAAGTCAAACAACAGATATCGGTTTTTACCAAAAGGTTTTTGGGGTGACAGACTGGTCATTA		1405
			exon 9		
(+/+)	1501	CTTGTGACGTCACCC	AGTCACTGACAGCACAACTGGTACAGATGATGTTATATGTCATAATGTTAAAGGCTTAGTGTGGCTCTCTTGGCAGAAT		1600
(a ^p /a ^p)	1406	CTTGTGACGTCACCC	AGTCACTGACAGCACAACTGGTACAGATGATGTTATATGTCATAATGTTAAAGGCTTAGTGTGGCTCTCTTGGCAGAAT		1505
			exon 11		
(+/+)	1601	GTCTTTTCCAACATG	ACAAGGCCCAATTCAGGATGTGATGACAGCACCTTGGCTTCTCTCAATGGCCTAGAAGTTCATCTTAAAGAGACTTTGCCAGT		1700
(a ^p /a ^p)	1506	GTCTTTTCCAACATG	ACAAGGCCCAATTCAGGATGTGATGACAGCACCTTGGCTTCTCTCAATGGCCTAGAAGTTCATCTTAAAGAGACTTTGCCAGT		1605
			exon 12		
(+/+)	1701	CAACAACAATAATCT	TACAAGAGCAGCTACAGCTTTACCCATTATGATCCTATTTCAGCATATTTCTACTGCCAACCTCCCGTCTGTTTCAAGCAGCGAT		1800
(a ^p /a ^p)	1606	CAACAACAATAATCT	TACAAGAGCAGCTACAGCTTTACCCATTATGATCCTATTTCAGCATATTTCTACTGCCAACCTCCCGTCTGTTTCAAGCAGCGAT		1705
			exon 13		
(+/+)	1801	GACCGCCACTTCTCC	GAGCTGCCACTCTGATACATTTCCGACTTTAGTCAACATCAGTCTTCCAGGAAATGACAGTAAGAAATGCAGCCTCTGCCGTCT		1900
(a ^p /a ^p)	1706	GACCGCCACTTCTCC	GAGCTGCCACTCTGATACATTTCCGACTTTAGTCAACATCAGTCTTCCAGGAAATGACAGTAAGAAATGCAGCCTCTGCCGTCT		1805
			exon 13		
(+/+)	1901	ATGGCTGCCAAAGTGT	GTCATGAGACCTACTTCCAGCAGCTGGCACCACCTATAAGGAACCTCTGGAGTCCCTGACCCACAGGACAATGCATTCTTCTT		2000
(a ^p /a ^p)	1806	ATGGCTGCCAAAGTGT	GTCATGAGACCTACTTCCAGCAGCTGGCACCACCTATAAGGAACCTCTGGAGTCCCTGACCCACAGGACAATGCATTCTTCTT		1905
			exon 13		
(+/+)	2001	ATCCAGCAAGGCAAAG	CAAAAATACTGAAACATGGTCTTAACCTGCTG	TAA(stop)	2052
(a ^p /a ^p)	1906	ATCCAGCAAGGCAAAG	CAAAAATACTGAAACATGGTCTTAACCTGCTG	TAA	1957

Fig. S2. Comparison of *hps4.L* transcripts between wild type (+/+) and mutant (a^p/a^p) *X. laevis*. In the mutant *hps4.L* transcript lacking exons 7 and 8, a premature stop codon is created in exon 9. Accession numbers: +/+ *hps4.L*, LC577762 (DDBJ); a^p/a^p *hps4.L*, LC577763 (DDBJ)