

**Additional file 8.** Functional and putative non-functional *A. salmonicida* genes involved in key steps of the chitinolytic cascade, together with orthologues from other sequenced *Vibrionaceae*.

<i>A. salmonicida</i> LF11238	Product	<i>V. cholerae</i> N16961	<i>V. parahaemolyticus</i> RIMD 2210633	<i>V. vulnificus</i> YJ016	<i>V. vulnificus</i> CMCP6	<i>V. harveyi</i> ATCC BAA-1116	<i>V. cholerae</i> O395	<i>A. fischeri</i> ES114
<b>Sensing/attachment</b>								
VSAL_I2601 <sup>#</sup>	Methyl-accepting chemotaxis protein <sup>1)</sup>	VC0449	VP2629	VV2887	VV1_1511	VIBHAR_07022	VC0395_A2871	VF2161
VSAL_I10134	Chitin binding protein <sup>1)</sup>	VCA0811*	VPA1598	VVA0551	VV2_0044	VIBHAR_04739	VC0395_0423	VFA0143
<b>Extracellular degradation</b>								
VSAL_I0757	Endochitinase <sup>2)</sup>	VC1952*	VP2338	VV2578	VV1_1833	VIBHAR_03258 VIBHAR_00548 VIBHAR_05899	VC0395_A1540	VF0655
VSAL_I0902/I0763 <sup>#</sup>	Chitinase A <sup>3)</sup>							
VSAL_I1942 <sup>#</sup>	Chitinase A <sup>2)</sup>	VCA0027*	VPA0055	VVA0044	VV2_1217	VIBHAR_06955	VC0395_0106	VF1598
VSAL_I1414 <sup>#</sup>	Putative chitinase <sup>3)</sup>	VC0769*	VP0619	VV0777	VV1_0417	VIBHAR_01081	VC0395_A0298	VF1390
VSAL_I10217	Chitinase B <sup>2)</sup>	VCA0140*	VPA0092	VVA0086	VV2_1258	VIBHAR_02190	VC0395_1137	VFA0013
<b>Outer membrane transport</b>								
VSAL_I2352 <sup>#</sup>	Chitoporin <sup>4)</sup>	VC0972*	VP0760	VV0946	VV1_0238	VIBHAR_01269	VC0395_A0493	VF1889
<b>Periplasmic degradation</b>								
VSAL_I1108 <sup>#</sup>	Chitodextrinase <sup>5)</sup>	VCA0700*	VPA0832	VVA0720	VV2_0213	VIBHAR_05945	VC0395_0638	VF0986
VSAL_I2583	Beta-N-acetylglucosaminidase <sup>6)</sup>	VC0613*	VP2486	VV2741	VV1_1666	VIBHAR_03430	VC0395_A0142	VF2146
VSAL_I10050	N,N'-diacetylchitobiase <sup>7)</sup>	VC2217*	VP0755	VV0942	VV1_0241	VIBHAR_01265	VC0395_A1809	VFA1010
VSAL_I10575	Beta-N-acetylhexosaminidase <sup>6)</sup>	VC0692	VP0545	VV0700	VV1_0496	VIBHAR_00991	VC0395_A0223	VFA0493
<b>Inner membrane transport</b>								
VSAL_I0703	PTS system, cellobiose-specific IIC component <sup>1)</sup>	VC1282	VP2636	VV2900	VV1_1483	VIBHAR_03624	VC0395_A0901	VF0603
VSAL_I0704	PTS system, cellobiose-specific IIB component <sup>1)</sup>	VC1281	VP2637	VV2901	VV1_1482	VIBHAR_03625	VC0395_A0900	VF0604
VSAL_I0705	PTS system, 6-phospho-beta-glucosidase <sup>1)</sup>	VC1284	VP2634	VV2898	VV1_1485	VIBHAR_03622	VC0395_A0903	VF0605
VSAL_I0706	PTS system, putative glucokinase							VF0606
VSAL_I0707	PTS system, cellobiose-specific IIA component <sup>1)</sup>	VC1283	VP2635	VV2899	VV1_1484	VIBHAR_03623	VC0395_A0902	VF0607
VSAL_I0708	PTS system, transcriptional regulator <sup>1)</sup>	VC1286	VP2632	VV2896	VV1_1487	VIBHAR_03620	VC0395_A0905	VF0608
VSAL_I0831	PTS system, N-acetylglucosamine and glucose permease <sup>6)</sup>	VC0995	VP0831	VV1012	VV1_0179	VIBHAR_01336	VC0395_A0516	VF0808
VSAL_I2577	ABC-type [(GlcNAc) <sub>2</sub> ] transporter, permease protein <sup>6)</sup>	VC0619*	VP2480	VV2735	VV1_1672	VIBHAR_03424	VC0395_A0148	VF2140
VSAL_I2578	ABC-type [(GlcNAc) <sub>2</sub> ] transporter, permease protein <sup>6)</sup>	VC0618*	VP2481	VV2736	VV1_1671	VIBHAR_03425	VC0395_A0147	VF2141
VSAL_I2579	ABC-type [(GlcNAc) <sub>2</sub> ] transporter, ATP-binding protein <sup>6)</sup>	VC0617*	VP2482	VV2737	VV1_1670	VIBHAR_03426	VC0395_A0146	VF2142
VSAL_I2580	ABC-type [(GlcNAc) <sub>2</sub> ] transporter, ATP-binding protein <sup>6)</sup>	VC0616*	VP2483	VV2738	VV1_1669	VIBHAR_03427	VC0395_A0145	VF2143
<b>Intracellular degradation</b>								
VSAL_I0830	N-acetylglucosamine-6-phosphate deacetylase <sup>8)</sup>	VC0994	VP0829	VV1011	VV1_0180	VIBHAR_01335	VC0395_A0515	VF0807

VSAL_I2581	Chitobiase (exoglucosidase) <sup>6)</sup>	VC0615*	VP2484	VV2739	VV1_1668	VIBHAR_03428	VC0395_A0144	VF2144
VSAL_I2582	Glucosamine kinase <sup>6)</sup>	VC0614*	VP2485	VV2740	VV1_1667	VIBHAR_03429	VC0395_A0143	VF2145
VSAL_I2584	Chitobiose phosphorylase <sup>6)</sup>	VC0612*	VP2487	VV2742	VV1_1665	VIBHAR_03431	VC0395_A0141	VF2147
VSAL_I2585	Phosphoglucomutase <sup>6)</sup>	VC0611*	VP2488	VV2743	VV1_1664	VIBHAR_03432	VC0395_A0140	VF2148
VSAL_I2812	Glucosamine-6-phosphate deaminase <sup>9)</sup>	VCA1025	VPA0038	VVA0028	VV2_1200	VIBHAR_07002	VC0395_0216	VF2357

**Regulation**

VSAL_I2575	Chitin degradation sensor protein <sup>6)</sup>	VC0622	VP2478	VV2733	VV1_1674	VIBHAR_03422	VC0395_A0150	VF2138
VSAL_I2576 <sup>#</sup>	[(GlcNAc) <sub>n</sub> ] binding protein <sup>6)</sup>	VC0620*	VP2479	VV2734	VV1_1673	VIBHAR_03423	VC0395_A0149	VF2139

<sup>#</sup>Degenerated *A. salmonicida* genes; <sup>†</sup>ChiS regulated in *V. cholerae*; <sup>1)</sup>Meibom et al. 2003, <sup>2)</sup>Orikoshi et al. 2005; <sup>3)</sup>Svitvil and Kirchman 1998; <sup>4)</sup>Keyhani et al. 2000;

<sup>5)</sup>Keyhani and Roseman 1996b; <sup>6)</sup>Li and Roseman 2004; <sup>7)</sup>Soto-Gil and Zyskind 1989; <sup>8)</sup>Yamano et al. 1997 and <sup>9)</sup>Rogers et al. 1988