

**Supplementary Table 1: Novel protein coding regions in *B. japonicum* USDA110 genome.**

NTR_ID	#Unique Peptide count	Significant PSMs (Unique Peptides)	Peptides	Identifying Sample	ORF start	ORF End	Translation Frame	Database ID
BJ_NTR_1	14	248	RSWLDGGTEVNPGRK PVYGPSGPNTVYQQGR FSDYAFPPAVGYPSFAR SWLDGGTEVNPGRK KFSYAFPPAVGYPSFAR QPLSPSDVGGYPQNFPLY SWLDGGTEVNPGRK RSWLDGGTEVNPGRK GRPVYGPSGPNTVYQQGR GRPVYGPSGPNTVYQQ RPVYGPSGPNTVYQQGR GPNTVYQQGR GRPVYGPSGPNTVY GRPVYGPSGPN	9	539055	539441	3	chrgi:27375111:ref:NC004463.1:_539010_539441_3
BJ_NTR_2	2	2	SRGEVALSDLAADQK KVAPAHPGQADAFSYR	1	1144191	1144466	3	chrgi:27375111:ref:NC004463.1:_1143780_1144466_3
BJ_NTR_3	2	2	LVPGFVTACTLDGDAR LVYAINNER	1	1225039	1224638	-3	chrgi:27375111:ref:NC004463.1:_1225108_1224638_-3
BJ_NTR_4	2	4	LPSVSLEGIQGHVVGK TRPTEELVDPHDAR	2	1919566	1919712	1	chrgi:27375111:ref:NC004463.1:_1919398_1919712_1
BJ_NTR_5	3	7	HLNELDRK LIPAIDELNADPER HLNELDR	3	1924411	1924770	1	chrgi:27375111:ref:NC004463.1:_1924396_1924770_1
BJ_NTR_6	4	33	ANINLSSQSIAGAR GLALSDLDR LHFGFTGDVMLGLAAVR CCAIWWLYR	6	2023793	2024101	2	chrgi:27375111:ref:NC004463.1:_2023718_2024101_2
BJ_NTR_7	8	79	HEWTYGQDPYPPSG DAQVLVQGHDR VAVDAAHK FRHEWTYGQDPYPPSG	9	2056995	2057228	3	chrgi:27375111:ref:NC004463.1:_2056926_2057228_3

			VAVDAAHKEGK ASVQYFVTR AVDAAHKEGK NCEYSGPYATEEEAIR					
BJ_NTR_8	3	17	VDAASLSAAAQQAETDFCR IVCDDAGGEHR ACQAAFK	4	2237471	2237677	2	chrgi:27375111:ref:NC00 4463.1:_2237447_22376 77_2
BJ_NTR_9	2	20	ALNLGIGLGHQR ALNLGIGLGH	4	2241278	2241463	2	chrgi:27375111:ref:NC00 4463.1:_2241263_22414 63_2
BJ_NTR_10	3	8	PAIAQVSQDITVIER SALENLLAHR ALAALTQE	3	2274509	2274306	-2	chrgi:27375111:ref:NC00 4463.1:_2274533_22743 06_-2
BJ_NTR_11	5	33	QREPDGVAEVCVATVPHALHAAVR LAASQCPVAAIR ASADPAPSPAEAER VMVDQDLCGTSGQCVLTLPGTFR VIESDAGDGER	5	2320513	2320803	1	chrgi:27375111:ref:NC00 4463.1:_2320324_23208 03_1
BJ_NTR_12	10	39	AQVETMMAVDK SFELWLISDK APPAPVVDNTNVIR SLGVIGGGEFTAR AFADIVQAWAYR AYTEDHIALAAEYALGTLADDER VGATPEPGK SFELWLISDKLPR KVGATPEPGK PIVWENIR	6	2379763	2380854	1	chrgi:27375111:ref:NC00 4463.1:_2379673_23808 54_1
BJ_NTR_13	2	4	LQAQHLSLDR EAEFGLDDAIAALR	2	2555937	2556221	3	chrgi:27375111:ref:NC00 4463.1:_2555919_25562 21_3
BJ_NTR_14	3	31	ECADWIYDPAR FAAHYPTDVDK NPYFAAHYPTDVDK	5	2557342	2557091	-3	chrgi:27375111:ref:NC00 4463.1:_2557399_25570 91_-3
BJ_NTR_15	8	57	FPEYRPPASSTN FGGEQTFR MFQLFLR AAVTFGNGDDEYLER RVEDVLAR LKELGASIAHFK	9	2559223	2559645	1	chrgi:27375111:ref:NC00 4463.1:_2559172_25596 45_1

			IEAIMIAIEDALHAAER EALDNHHQDLFDKEILNGQR					
BJ_NTR_16	6	70	LQMSADNVADSYAR DRFNGLAAK RLQMSADNVADSYAR QLHTGLMTR TTMEQATAAAK ADADLDVVIR	8	2672918	2672562	-2	chrgi:27375111:ref:NC00 4463.1:_2672924_26725 62_-2
BJ_NTR_17	7	43	SGSAEELAR AAAGPVIVHTLA DGAVPIISDVGFR IKDGAVPIISDVGFR DLGPLLAGDAR FEQAEANR AIAWIEK	9	2674126	2674419	1	chrgi:27375111:ref:NC00 4463.1:_2674030_26744 19_1
BJ_NTR_18	4	11	LKDSEAHPPNAK TVLLTGLR SAGVTINHEAAAAGEEPPWS MTDDQVNR	4	2696071	2695853	-3	chrgi:27375111:ref:NC00 4463.1:_2696248_26958 53_-3
BJ_NTR_19	6	14	FSDDRLLLVDALAK INASGLELGALVSSTPAAFR VAAVFDVIEPFAR AILQLIGNALLVQQR LTAVSETANALTDIIDTER KLTAVSETANALTDIIDTER	2	2744061	2744900	3	chrgi:27375111:ref:NC00 4463.1:_2744049_27449 00_3
BJ_NTR_20	2	3	IHVRPADFPS DVLGEYGR	1	3511463	3511675	2	chrgi:27375111:ref:NC00 4463.1:_3511436_35116 75_2
BJ_NTR_21	2	2	SFDPTAQETLFYPR ELTGAGFTAAFR	1	4280525	4280746	2	chrgi:27375111:ref:NC00 4463.1:_4280492_42807 46_2
BJ_NTR_22	3	10	AVVALHPATVDFVK MLRVPLHSVVHFVR VPLHSVVHFVR	1	4483397	4483708	2	chrgi:27375111:ref:NC00 4463.1:_4483370_44837 08_2
BJ_NTR_23	2	10	FYAPVSYGYGGCYVR RLVPTPWGPR	1	4555782	4555531	-1	chrgi:27375111:ref:NC00 4463.1:_4556379_45555 31_-1
BJ_NTR_24	1	5	VIAGEQGAQR	1	4603617	4603312	-1	chrgi:27375111:ref:NC00 4463.1:_4603653_46033 12_-1

BJ_NTR_25	3	4	AFLQIDGEPVTLAK YSGAGVTLR CADGTQFIVGFYDADKR	2	4606004	4606330	2	chrgi:27375111:ref:NC00 4463.1:_4605953_46063 30_2
BJ_NTR_26	5	47	GEDVEFIDAK ILVLYGSYR ERGEDVEFIDAK LANFVINR FADDLAWWIEAAK	9	4634660	4635250	2	chrgi:27375111:ref:NC00 4463.1:_4634651_46352 50_2
BJ_NTR_27	2	4	VTDRDHNELYR TPLDPVPAWQR	2	4655067	4654837	-1	chrgi:27375111:ref:NC00 4463.1:_4655082_46548 37_-1
BJ_NTR_28	2	3	YGGHFHAVESNLHETDDL R FVAFEVPLSLAR	1	4677230	4677526	2	chrgi:27375111:ref:NC00 4463.1:_4677206_46775 26_2
BJ_NTR_29	2	2	NCQVVWR ITLDEDASQLPGVIR	1	4859967	4860221	3	chrgi:27375111:ref:NC00 4463.1:_4859937_48602 21_3
BJ_NTR_30	2	2	VVWLDFR YGQGFDSFVCLGEAR	1	5011223	5010939	-2	chrgi:27375111:ref:NC00 4463.1:_5011454_50109 39_-2
BJ_NTR_31	3	4	LALIELLIEEK LLTEADDEDKR AAMTAHTIATVLR	2	5044580	5044783	2	chrgi:27375111:ref:NC00 4463.1:_5044565_50447 83_2
BJ_NTR_32	2	2	LGETGYHWYR HGYCWYR	1	5148505	5148314	-3	chrgi:27375111:ref:NC00 4463.1:_5148517_51483 14_-3
BJ_NTR_33	4	11	ATVLQLPVTQPAGER PAQVGETIVTTTFR YVLVTQLVEGQR HHDAIEFPDGGK	4	5350358	5350789	2	chrgi:27375111:ref:NC00 4463.1:_5350217_53507 89_2
BJ_NTR_34	2	4	QAATDAAIEAAR RYSATYSVDK	2	5550319	5550534	1	chrgi:27375111:ref:NC00 4463.1:_5550259_55505 34_1
BJ_NTR_35	2	2	LFPDLDPLEIYR MLANGKEPAAVSLHLAQAK	1	5804755	5805027	1	chrgi:27375111:ref:NC00 4463.1:_5804737_58050 27_1
BJ_NTR_36	10	46	AAYVGQDR CYQSAAAYVGQDRR CYQSAAAYVGQDR SYVNPLPYPISYLHN	5	5865768	5866031	3	chrgi:27375111:ref:NC00 4463.1:_5865720_58660 31_3

			SYVNPLPYPISYLH TFAYYDGPSTNR ITPGTFAYYDGPSTNR AAAYVGQDR GTFAYYDGPSTNR LHNYGPGITPGTFAYYDGPSTNR					
BJ_NTR_37	4	9	YYGGYGPR YYGYGYR PNYYGYYGPR MVCDAWGR	3	5866862	5867146	2	chrgi:27375111:ref:NC00 4463.1:_5866847_58671 46_2
BJ_NTR_38	3	20	YAGPGVWVDGFR HSQIACTIENY ASPSAIGSCSELVFTCENGR	5	6031015	6031395	1	chrgi:27375111:ref:NC00 4463.1:_6030586_60313 95_1
BJ_NTR_39	3	3	GEIDYFTSAR PPQQTNITSETGGDAAR LRLDPSAVLSLLK	1	6503599	6503324	-3	chrgi:27375111:ref:NC00 4463.1:_6503698_65033 24_-3
BJ_NTR_40	1	11	AGSTPIPSAEAPDR	1	6676557	6676399	-1	chrgi:27375111:ref:NC00 4463.1:_6676608_66763 99_-1
BJ_NTR_41	2	2	HRDEIFEK ETIHTHAPGFSDALNR	1	6957326	6957547	2	chrgi:27375111:ref:NC00 4463.1:_6957239_69575 47_2
BJ_NTR_42	5	11	AVDDAGYR VTVANACQR LKECLSR SCGAEIVANCR ETMSFGDSIGLLAK	4	7228018	7228434	1	chrgi:27375111:ref:NC00 4463.1:_7227739_72284 34_1
BJ_NTR_43	7	52	WDNTGICQVWNEDLK VSKPLPTFTAASDLQIK YKPFQWGASTYK VSKPLPTFTAASDL PLPTFTAASDLQIK FTAASDLQIK APSYVIR	6	7342072	7342332	1	chrgi:27375111:ref:NC00 4463.1:_7341541_73423 32_1
BJ_NTR_44	3	8	GAAGAQQPVGPPGPPGPPGPR AGPAGKPGPQGK QGEPGRPGPQGHPR	3	7346137	7346655	1	chrgi:27375111:ref:NC00 4463.1:_7346110_73466 55_1
BJ_NTR_45	4	10	ALGQIATGQVDVADDQVK VQVVLPWLLQR FAEMAQATIR	3	7467885	7467568	-1	chrgi:27375111:ref:NC00 4463.1:_7467894_74675 68_-1

			AAASIPVMQVEEER					
BJ_NTR_46	8	15	NILLGASYGSLGTK LRDEAVHR AVASGAPFIER LGADPQDQVPFAK TVETVDQK AAESLLKPSSAAR VFDSLFPVPLAK LISHQLGVPNPEIDR	3	7585057	7586121	1	chrgi:27375111:ref:NC00 4463.1:_7584841_75861 21_1
BJ_NTR_47	3	9	RKPEPAAEADADAA SLYESEAFPLPR FDQNGIR	3	7761226	7761519	1	chrgi:27375111:ref:NC00 4463.1:_7761139_77615 19_1
BJ_NTR_48	3	6	CSVAAALALR ADPETPGTNQGPVTISSSSSER QGGQQPTTEEIPAMK	2	8015277	8014960	-1	chrgi:27375111:ref:NC00 4463.1:_8015292_80149 60_-1
BJ_NTR_49	8	34	LILAEPAPGVR YSEDEITAR DVMALLGFGLR DALIGLISTALSDYR LVLGDILQPNVGMFR AAGFAVQR AHTNIGHNR LSDYRQLR	7	8111311	8112012	1	chrgi:27375111:ref:NC00 4463.1:_8111251_81120 12_1
BJ_NTR_50	4	6	IGDDAAESHAFER FALETTR SAENYADDLR SDGTNWDPR	2	8451525	8451806	3	chrgi:27375111:ref:NC00 4463.1:_8451501_84518 06_3
BJ_NTR_51	2	2	AMLIYMKPDLIAEAK AWQFIEK	1	8867734	8867919	1	chrgi:27375111:ref:NC00 4463.1:_8867698_88679 19_1
BJ_NTR_52	1	6	VTPLSQELPAHSR	1	-	1698438	1	chrgi:27375111:ref:NC00 4463.1:_1698235_16984 38_1
BJ_NTR_53	2	2	MHTAAEQSGVIDR VLLVHHVEGQCR	1	-	2207542	-1	chrgi:27375111:ref:NC00 4463.1:_2207895_22075 42_-1
BJ_NTR_54	2	2	GFAIPAGLGGNWK NDLLVVPR	1	-	2239850	3	chrgi:27375111:ref:NC00 4463.1:_2239560_22398 50_3

BJ_NTR_55	1	9	FEFEIEIR	1	-	302362	-1	chrgi:27375111:ref:NC004463.1:_302817_302362_-1
BJ_NTR_56	2	36	LASYIDVKR ASYIDVKR	5	-	3859456	-1	chrgi:27375111:ref:NC004463.1:_3859827_3859456_-1
BJ_NTR_57	4	35	KPATVFVDGGSGTTGLGINER ETVALIDSMGPGPK VLDASTAYR LKLQSDVAVK	9	-	4819223	3	chrgi:27375111:ref:NC004463.1:_4817820_4819223_3
BJ_NTR_58	4	15	SIDDFISVWPLGHQDK VWVPDDQLIQSEER RSIDDFISVWPLGHQDK TTLVELPR	3	-	5552603	-3	chrgi:27375111:ref:NC004463.1:_5552938_5552603_-3
BJ_NTR_59	2	8	DTVTLPAIALIDER AAGGDDAAPKPK	2	-	5668821	1	chrgi:27375111:ref:NC004463.1:_5668441_5668821_1