

**S2 Table . Genome location of conserved genes within the *Iridoviridae* family**

Gene name <sup>b</sup>	SDDV <sup>a</sup>	Megalocytivirus					Lymphocystivirus		Ranavirus						Iridovirus	Chloro-iridovirus	
		ISKNV	OSGIV	RBIV	TRBIV	RSIV	LCDV-1	LCDV-C	SGIV	GIV	FV3	STIV	TFV	ATV	EHNV	IIV-6	IIV-3
1 Putative replication factor and/or DNA binding/packing	17L	61L	60L	57L	56L	92R	91L	180R	116R	67R	1R	1R	105R	95R	100R	282R	79L
2 Myristilated membrane protein	30L	90,5L	88,5L	85L	83R	575R	89L	38R	19R	4R	2L	2L	2L	1L	1L	337L	47R
3 DNA-dep RNA pol-II largest subunit	76L	28L	31L	29L	28L	239R	7L	190R	104L	59L	8R	10R	8R	6R	7R	176R\343L	90L
4 Putative NTPase I	104L	63L	63L	59L	58L	13R	70L	075L	60R	30R	9L	11L	9L	7L	8L	22L	87L
5 Unkown	33L	96L	93L	91.5	88L	550R	57L	100L	118R	68R	12L	14L	12L	91R	95R	287R	56L
6 ATPase-like protein	35L	123R	119R	116R	113R	407R	30R	114L	134L	73L	15R	16R	16R	87R	92L	75L	88R
7 Serine-threonine protein kinase	15L	55L	56L	53L	52L	111R	5L	45R	39L	17L	19R	21R	19R	84L	89L	380R	10L
8 Helicase family	16L	56L	57L	54L	53L	101R	4L	7L	54R	28R	21L	24L	21L	82R	86R	67R	4R
9 D5 family NTPase involved in DNA replication	40R	109L	106L	101L	99L	493R	69L	78L	52L	27L	22R	25R	22R	81L	85L	184R	121R
10 Putative tyrosine kinase/lipolysaccharide modifying enzyme	37R	114L	111L	109L	105L	463R	110R	172R	78L\81L	44L	27R	31R	29R	60R	62R	179R	35R
11 NIF-NLI interaction factor	99L	5L	6L	6L	5L	385R	43L	147L	61R	31R	37R	41R	40R	67R	72R	355R	104L
12 Unkown	91L	76L	75L	72L	69L	639R	92R	234R	57L	29L	41R	45R	45R	72R	77R	295L	16R
13 Myristilated membrane protein	61L	7L	8L	8L	7L	374R	35L	157R	88L	49L	53R	55R	55R	53L	53L	458R	6R
14 Serine-threonine protein kinase	65R	13R	15R	13R	13R	349R	77L	177L	150L	83L	57R	60R	59R	49L	58L	98R	98L
15 DNA pol family B exonuclease	70R	19R	22R	20R	20R	317L	72R	202L	128R	71R	61R	63R	63R	46L	44L	37L	120R
16 DNA-dep RNA pol-II second largest subunit	122L	34R	36R	33R	33R	224L	13L	25R	73L	40L	63L	64R	65L	44R	43R	428L	9R
17 Ribonucleotide reductase small subunit	52R	24R	27R	26R	25R	268L	15L	41L	47L	22L	68L	71L	71L	39R	38R	376L	48L
18 Ribonuclease III	25R	87R	85R	83R	80R	596L	74R	186R	84L	46L	81L	87L	85L	25R	24R	142R	101R
19 Transcription elongation factor TFIIIS	126R	29L	32L	31L	29L	238R	97R	115R	85R	47R	82R	88R	86R	24L	23L	349L	55R
20 Proliferating cell nuclear antigen	39L	112R	109R	107R	102R	487L	2L	196L	68L	35L	85R	91R	90R	20L	19L	436R	60L
21 Deoxynucleoside kinase	125L	32R	34R	31R	31R	234L	73R	27R	67L	34L	86R	92R	91R	19L	18L	143R	29R
22 ErvI/Alr family	3L	43L	45L	44L	42L	156R	55L	141L	70R	37R	89R	94R	94R	16L	16L	347L	96R
23 Major capsid protein	60L	6L	7L	7L	6L	380R	80L	43L	72R	39R	91R	96R	96R	14L	14L	274R	14L
24 Immediate early protein ICP-46	36L	115R	112R	108R	106R	458L	24L	161R	162L	90L	92R	97R	97R	13L	13L	393L	39R
25 Hypothetical protein - Clostridium tetani	24R	86L	84.5R	83.5R	79R	600L	9R	152L	98R	56R	94L	99L	100R	11R	11R	307L	33L
26 Putative XPPG-RAD2 type nuclease	73L	27L	30L	28L	27L	256R	107R	168R	97L	55L	96R	100R	101R	10L	10L	369L	76L

- **a:** SDDV: scale drop disease virus; ISKNV: infectious spleen and kidney necrosis virus; OSGIV: orange-spotted grouper iridovirus; RBIV: rock bream iridovirus; TRBIV: turbot reddish body virus; RSIV: red sea bream iridovirus; LCDV-1: lymphocystis disease virus 1; LCDV-C: lymphocystis disease virus China; SGIV: Singapore grouper iridovirus; GIV: grouper iridovirus; FV3: Frog virus 3; STIV: soft-shelled turtle iridovirus; TFV: tiger frog virus; ATV: *Ambystoma tigrinum* virus; EHNV: epizootic haematopoietic necrosis virus; IIV-6: invertebrate iridovirus type 6; IIV-3: invertebrate iridescent virus 3.
- **b:** Gene name according to Eaton et al. (reference [9] in main text).