

1 **Supplemental Materials**

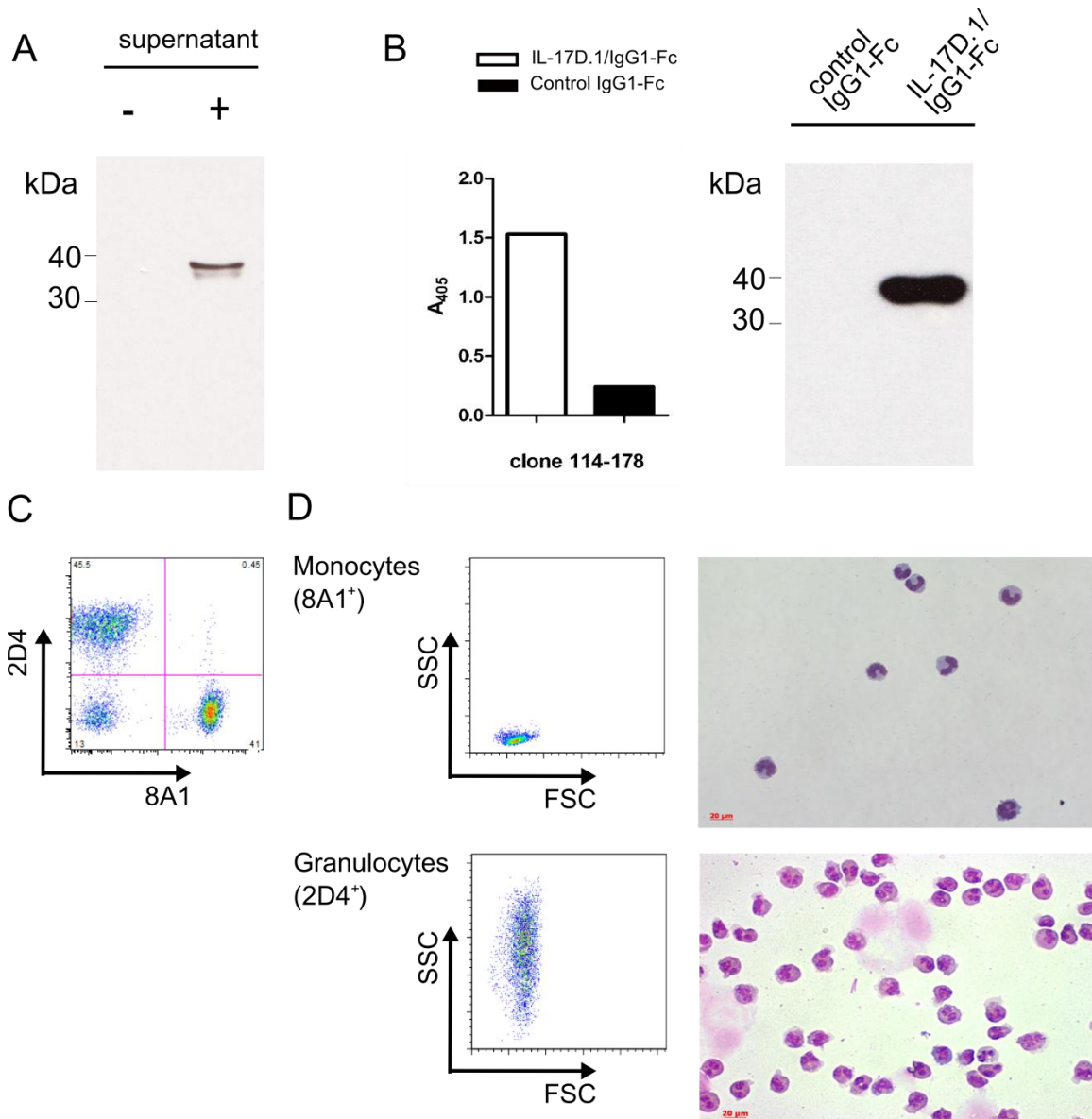
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3 **Supplemental Table 1.** List of *IL-17* and *IL-17R* genes in lampreys

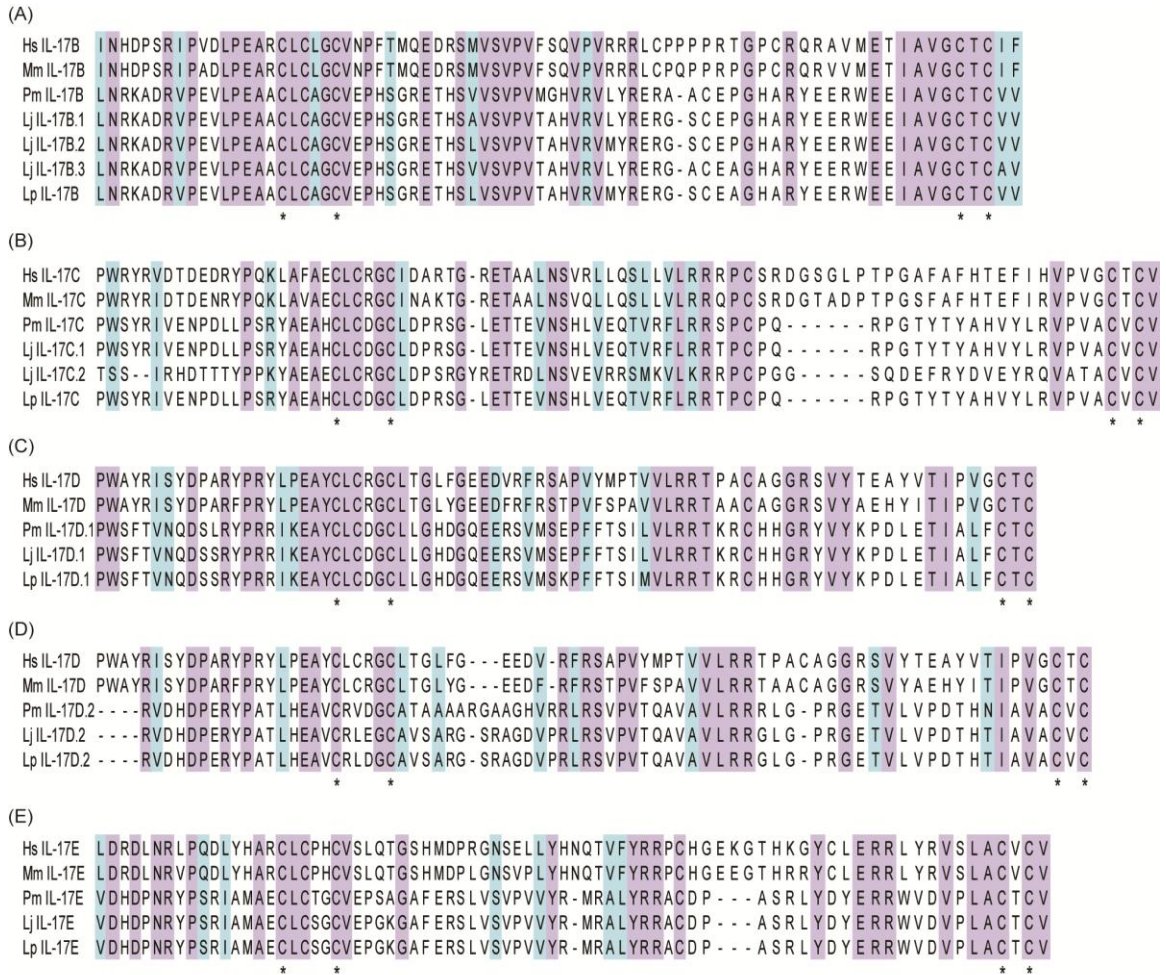
Lamprey species	Gene name	Source	Scaffold/Contig /Accession no.	Start	Stop	Strand
Sea Lamprey	<i>IL-17D.2</i>	Genome	Sca2697	18751	18990	F
Sea Lamprey	<i>IL-17B</i>	Genome	Sca995	164419	164667	R
Sea Lamprey	<i>IL-17E</i>	Genome	Sca1481	2056	2310	F
Sea Lamprey	<i>IL-17D.1</i>	Cloning	KR059941			
Sea Lamprey	<i>IL-17C</i>	Transcriptome	KR059956			
Sea Lamprey	<i>IL-17RA.1</i>	Cloning	KR059942			
Sea Lamprey	<i>IL-17RA.2</i>	Cloning	KR059943			
Sea Lamprey	<i>IL-17RA.3</i>	Cloning	KR059944			
Sea Lamprey	<i>IL-17RF</i>	Genome	Sca1205	18952	19704	R
Sea Lamprey	<i>IL-17RE/RC*</i>	Genome	Sca14325	1319	6044	F
Sea Lamprey	<i>IL-17RD*</i>	Genome	Sca563	63041	63220	R
European brook lamprey	<i>IL-17D.2</i>	Transcriptome	KR059945			
European brook lamprey	<i>IL-17B</i>	Transcriptome	KR059946			
European brook lamprey	<i>IL-17E</i>	Transcriptome	KR059947			
European brook lamprey	<i>IL-17D.1</i>	Transcriptome	KR059948			
European brook lamprey	<i>IL-17C</i>	Transcriptome	KR059949			
European brook lamprey	<i>IL-17RA.1</i>	Transcriptome	KR059950			
European brook lamprey	<i>IL-17RA.2</i>	Transcriptome	KR059951			
European brook lamprey	<i>IL-17RA.3</i>	Transcriptome	KR059952			
European brook lamprey	<i>IL-17RF</i>	Transcriptome	KR059953			
European brook lamprey	<i>IL-17RE/RC</i>	Transcriptome	KR059954			
European brook lamprey	<i>IL-17RD</i>	Transcriptome	KR059955			
Japanese Lamprey	<i>IL-17D.2</i>	Genome	Sca00061	1103835	1104062	F
Japanese Lamprey	<i>IL-17B.1</i>	Genome	Sca00085	123306	124634	R
Japanese Lamprey	<i>IL-17B.2</i>	Genome	Sca00265	24268	25632	R
Japanese Lamprey	<i>IL-17B.3</i>	Genome	Sca00321	463705	463929	F
Japanese Lamprey	<i>IL-17E</i>	Genome	Sca00508	279777	280001	F
Japanese Lamprey	<i>IL-17D.1</i>	Genome	Sca00087	1656028	1658572	F
Japanese Lamprey	<i>IL-17C.1</i>	Genome	Sca02272	3558	4163	F
Japanese Lamprey	<i>IL-17C.2</i>	Genome	Con116163	186	419	R
Japanese Lamprey	<i>IL-17RA.1</i>	Genome	Sca415	633	4676	F
Japanese Lamprey	<i>IL-17RA.2</i>	Genome	Sca00374	461849	484143	F
Japanese Lamprey	<i>IL-17RA.3</i>	Genome	Sca00138	1586662	1590219	F
Japanese Lamprey	<i>IL-17RF</i>	Genome	Con062298	2	703	F
Japanese Lamprey	<i>IL-17RE/RC</i>	Genome	Sca00976	58113	75959	R
Japanese Lamprey	<i>IL-17RD</i>	Genome	Sca00003	3120453	3209856	R

4 Note: * The sequence encoding the conserved SEFIR domain was not found due to
5 incompleteness of the genome sequence.

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9 **Supplemental Figure 1.** Production and characterization of anti-IL-17D.1, anti-
10 monocyte and anti-granulocyte mAbs. (A) Production of IL-17D.1/IgG1-Fc fusion
11 protein. HEK-293T cells were transfected with control plasmids (-) or plasmids
12 expressing IL-17D.1/IgG1-Fc fusion protein (+). Supernatants were collected after 60
13 hours and resolved on reducing SDS-PAGE gel before Western blotting. (B) Reactivity
14 of a mouse anti-IL-17D.1 mAb (clone114-178) with control IgG1-Fc and IL-17D.1/IgG1-
15 Fc proteins, measured by ELISA and Western blot. (C) Cell surface staining of adult
16 lamprey blood leukocytes with anti-monocyte (8A1) and anti-granulocyte (2D4)
17 antibodies. Cells were gated using FSC-A vs FSC-H for singlets, and negative propidium
18 iodide staining for live cells. (D) Analysis of 8A1⁺ monocytes and 2D4⁺ granulocytes by
19 flow cytometry (FSC/SSC) and Wright-Giemsa stain. scale bar, 20 μm.
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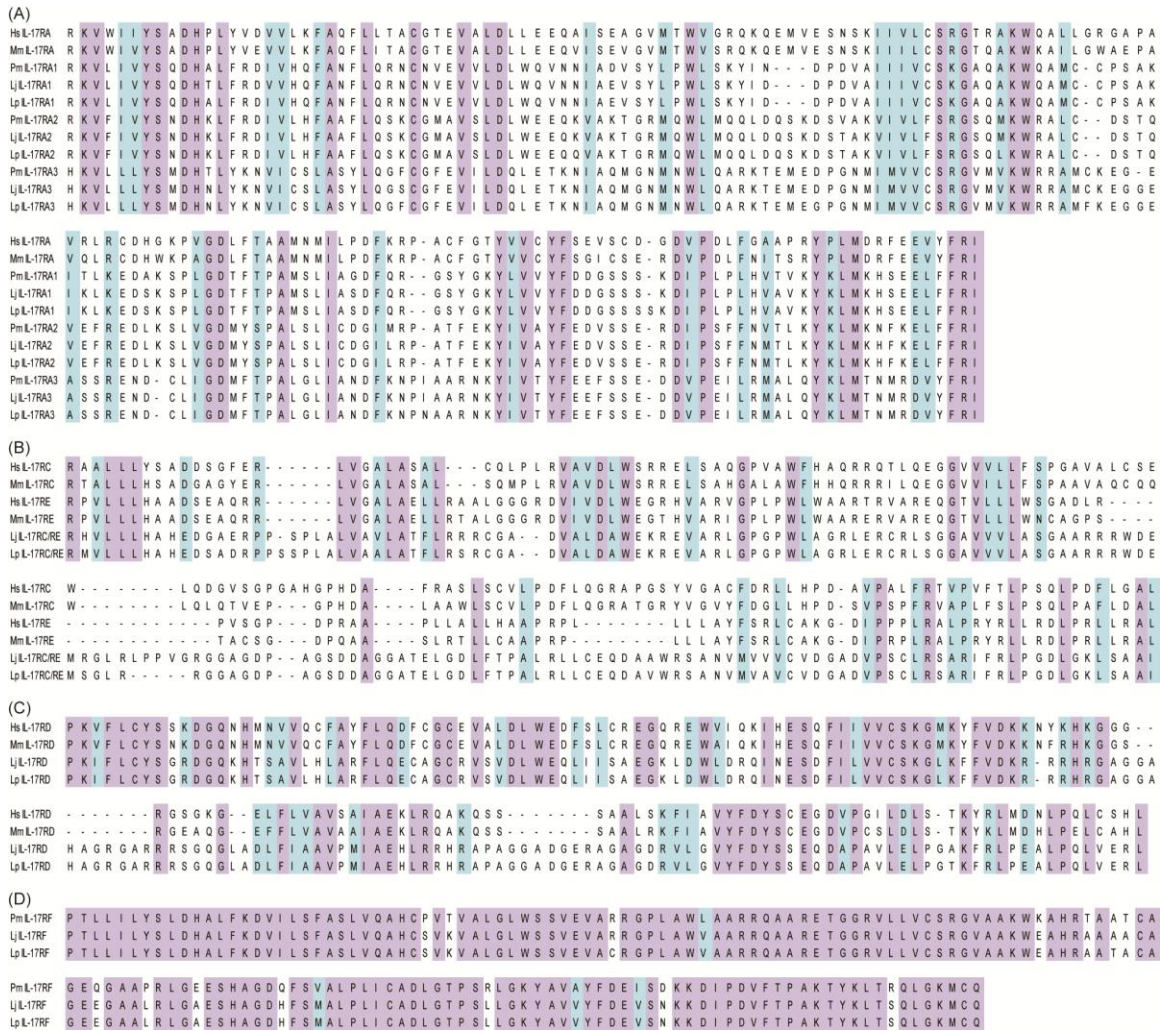


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22 **Supplemental Figure 2.** Sequence alignment of C-terminal residues of lamprey IL-17s
 23 with mammalian IL-17s. The alignment was achieved by using ClustalW. Identical
 24 residues are boxed in purple and highly conserved residues in blue. The four cysteines
 25 that may form the cystine-knot structure in the IL-17 family are marked with asterisks.
 26 Pm IL-17s: sea lamprey IL-17s; Lj IL-17s: Japanese lamprey IL-17s; Lp: European brook
 27 lamprey IL-17s. The accession numbers for sequences used in this analysis are listed in
 28 Fig. 1.

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32 **Supplemental Figure 3.** Sequence alignment of intracellular SEFIR domains of lamprey
33 IL-17Rs with mammalian IL-17Rs. The alignment was achieved using ClustalW.
34 Identical residues are boxed in purple and highly conserved residues in blue. Pm IL-17Rs:
35 sea lamprey IL-17Rs; Lj IL-17Rs: Japanese lamprey IL-17Rs; Lp: European brook
36 lamprey IL-17Rs. Note that lamprey IL-17R4 sequences are distinct and do not group
37 with mammalian IL-17R member. The accession numbers for sequences used in this
38 analysis are listed in Fig. 5.