

Table S3.

List of genomes and transcriptomes used in the Blastn search to detect conserved *S. arctica* lncRNAs. SRA indicates the accession number to raw data available from the NCBI Short Read Archive. "Trinity de novo" indicates that the transcriptome was assembled without a reference genome. "Trinity de novo + ref + PASA genome" indicates that the transcriptome was assembled using a reference genome. Assembly details are described in the methods.

Species	Transcriptome accessions (assembly strategy)	Genome accessions
<i>Sphaeroforma sirkka</i>	SRA ERR2729814 (Trinity de novo)	
<i>Sphaeroforma napiecek</i>	SRA ERR2709822 (Trinity de novo)	
<i>Sphaeroforma gastrica</i>	Unpublished RNA-seq (Trinity de novo + ref + PASA genome)	
<i>Sphaeroforma tapetis</i>	Unpublished RNA-seq (Trinity de novo + ref + PASA genome)	
<i>Sphaeroforma nootkatensis</i>	Unpublished RNA-seq (Trinity de novo)	
<i>Creolimax fragrantissima</i>	SRA ERR2666850 (Trinity de novo)	
<i>Abeoforma whisleri</i>	Unpublished RNA-seq (Trinity de novo)	
<i>Pirum gemmata</i>	Unpublished RNA-seq (Trinity de novo)	
<i>Amoebidium parasiticum</i>	SRA SRR343044, SRR343049, SRR545192 (Trinity de novo)	
<i>Chromosphaera perkinsii</i>	SRA SRR5192512 (Trinity de novo)	
<i>Ichthyophonus hoferi</i>	SRA SRR1618711 (Trinity de novo)	
<i>Sphaerotecum destruens</i>	SRA SRR1618479 (Trinity de novo)	
<i>Ministeria vibrans</i>	SRA SRR343051, SRR343053 (Trinity de novo)	
<i>Capsaspora owczarzaki</i>	GCA_000151315.2	GCA_000151315.2
<i>Salpingoeca rosetta</i>	GCF_000188695.1	GCF_000188695.1
<i>Monosiga brevicollis</i>	GCF_000002865.3	GCF_000002865.3
<i>Didymoeca costata</i>	SRA SRR6344966 (Trinity de novo)	
<i>Choanoeca perplexa</i>	SRA SRR6344967 (Trinity de novo)	
<i>Salpingoeca infusionum</i>	SRA SRR6344968 (Trinity de novo)	
<i>Microstomoeca roanoka</i>	SRA SRR6344969 (Trinity de novo)	
<i>Diaphanoeca grandis</i>	SRA SRR6344970 (Trinity de novo)	
<i>Acanthoeca spectabilis</i>	SRA SRR6344971 (Trinity de novo)	
<i>Salpingoeca dolichothecata</i>	SRA SRR6344972 (Trinity de novo)	
<i>Codosiga hollandica</i>	SRA SRR6344973 (Trinity de novo)	
<i>Salpingoeca helianthica</i>	SRA SRR6344974 (Trinity de novo)	
<i>Mylnosiga fluctuans</i>	SRA SRR6344975 (Trinity de novo)	
<i>Salpingoeca punica</i>	SRA SRR6344976 (Trinity de novo)	
<i>Hartaetosiga gracilis</i>	SRA SRR6344977 (Trinity de novo)	
<i>Salpingoeca kvevrui</i>	SRA SRR6344978 (Trinity de novo)	
<i>Salpingoeca urceolata</i>	SRA SRR6344979 (Trinity de novo)	
<i>Stephanoeca diplocostata</i>	SRA SRR6344980 (Trinity de novo)	
<i>Helgoeca nana</i>	SRA SRR6344981 (Trinity de novo)	
<i>Stephanoeca diplocostata</i>	SRA SRR6344982 (Trinity de novo)	
<i>Savillea parva</i>	SRA SRR6344983 (Trinity de novo)	
<i>Salpingoeca macrocollata</i>	SRA SRR6344984 (Trinity de novo)	
<i>Hartaetosiga balthica</i>	SRA SRR6344985 (Trinity de novo)	