

Halobacterium	DTEEDEQERGITIDAANVSMTHE	-----	YEGDDHLINLIDTPGHVDF
Methanospirillum	DSDEEEQARGITIDASNVMVHE	-----	YNGKEYLINMIDTPGHVDF
Thermoplasma	DYDEQEQARGITINAASVSMVHA	-----	FQGKEYLINLIDTPGHVDF
Methanopyrus	DFDEMEQERGITIDAANVSMVHE	-----	YEGEEYLINLIDTPGHVDF
Thermococcus	DFDEQEQARGITINAANVSMVHT	-----	YEGQDYLINLIDTPGHVDF
Nanoarchaeota	WWHEQEREREMTIYGAASVMVHE	-----	YEGDDYLINLIDTPGHVEF
Staphylothermus	DYLDVEQKRGITVKSANISLYHE	-----	YKGKPYVINLIDTPGHVDF
Ignisphaera	DFLDVEQRRQMTVKAANISLYHE	-----	YEGKPYVINLVDTPGHVDF
Korarchaeota	DYHEIEQQRGITIKAANISLYYQ	-----	RDGKEFAINLVDTPGHIDF
Caldiarchaeum	DYLEEEQQRQMTIKAANVSLYYE	-----	MDGKPYIINLIDTPGHVDF
Nitrosoarchaeum	DFDKEEQERGITIYQANVTLLFFT	-----	QKEKEYVINMIDTPGHVDF
Bathyarchaeum	DYMEEEQKRQMTIKAANISLYYE	-----	YENKPYVINLIDTPGHIDF
Thorarchaeota	DSDEEEQERGITIFTSVLLNFE	-----	VEGEEYLVQLSDTPGHLSF
Lokiarchaeon 1	DSDEEEQARGITIFTSVLLAFNDL	----	REQQEKEPYILQINDTPGHISF
Galdiera	DSREDEQLRGITMKSSAISLCHPYR	----	REDSKVEYYLINLVDSPGHVDF
Reticulomyxa	DSRDDEQARGITIKSTSISLYYERD	----	EEKEKNVPEYLINLIDSPGHVDF
Naegleria	DTRDDEQDRGITIKSTSISLYYKCP	----	AEDGTETPYLINLIDCPGHVDF
Drosophila	DNRSDQERGITMKSSSISLYYQEA	----	EEMAGNPDYLINLIDSPGHVDF
Lokiarchaeon 3	DTREDEQERGITIKTTGISLHHIYK	----	GGNKIPEGNYLINLQDTPGHVDF
Schizophyllum	DSREDEQERGITMESSAVSLKFHVK	----	GGEGQPNRTYIVNMIDTPGHVDF
Fibulorhizoctonia	DSREDEQERGITMESSAVSLRFQVK	----	GGEGRPPISYFINMIDTPGHVDF
Scleroderma	DSREDEIERGITMESSAVSLKFVVL	----	GRDGESPRTYIINMIDTPGHVDF
Bactrocera	DTRQDEQERGITMKSSSISLYYSGN	----	AKNDGNEQNYLVNLIDSPGHVDF
Lokiarchaeon 2	DSDEEEQERGITIFTTVVILSYEYETTD	AEAGNTREDTYLQINDTPGHLSF	
Laccaria	DSREDEQERGITMESSAVSLKFQVIERD	ANGERLPKTYIVNIIDTPGHVDF	
Phanerochaete	DSREDEQERGITMESSAVSLRFKVM	EKTAEGGSSPKTYVVNMIDTPGHVDF	
Rhizopus	DSREDEQERGITMESSAISLYFKLLK	TNEEGKATESEYLINLIDSPGHVDF	
Trametes	DSREDEQERGITMESSAVSLRFNV	MERNPEGDPRPKTYVVNMIDTPGHVDF	
Sistotremastrum	DSREDEQERGITMESSAVSLNFKV	MSKSDGEPSPRDYVVNLIDTPGHVDF	
Ceriporiopsis	DSREDEQERGITMESSAVSLRFKVM	ERD TDGGSSPKTYVVNMIDTPGHVDF	
Rhizoctonia	DSREDEQERGITMESSAVSLRFKMM	KRSAAGTPEAENFVINLIDTPGHVDF	
Dichomitux	DSREDEQQRGITMESSAVSLRFKVM	QKGEPEGPVPKTYVVNMIDTPGHVDF	
Dacryopinax	DSREDEQERGITMESSAVSLRFQVL	RRNATGNDFLESFVINLIDTPGHVDF	
Gelatoporia	DSREDEQERGITMESSAVSLRFKVM	ERD TDGGSSPKTYVVNMIDTPGHVDF	
Bathyarchaeum	DYMEEEQKRQMTIKAANISLYYE	-----	YENKPYVINLIDTPGHIDF
Thorarchaeota	DSDEEEQERGITIFTSVLLNFE	-----	VEGEEYLVQLSDTPGHLSF
Lokiarchaeon 1	DSDEEEQARGITIFTSVLLAFNDL	REQQE-KEP----	YILQINDTPGHISF
Rhinoctadiella	DSRPDEQIRGITMESSAISLYFSMM	RRQQENAEPKKEEYLINLIDSPGHIDF	
Capronia	DSRPDEQTRGITMESSAISLYFSMM	RRQQENAEPKKEEYLINLIDSPGHIDF	
Exophila	DSRPDEQIRGITMESSAISLYFSMM	RRQQEGAEPKQEEYLINLIDSPGHIDF	
Cladophialophora	DSRPDEQIRGITMESSAISLYFSMI	RRQKEDQEPKQEEYLINLIDSPGHIDF	

S13 Fig – Alignment of the N-terminal lokiarchaeal EF2 insertion (A1, A2, A3).

Alignment of the region corresponding to the insertion A1, A2 and A3 in lokiarchaeal EF2 sequences, with archaeal EF2 sequences and eukaryotic Ria sequences (EF2 paralog), and with Ria sequences from a subgroup of fungi (bottom alignment). Organisms' names corresponding to Lokiarchaea/Thorarchaea, Archaea, and Eukarya are respectively indicated in brown, green, and blue.