

**Table S1.** Sequences/species used for the phylogenetic analysis presented in Figure 1.

				B9 Family Members			
Supergroup	Subgroup	Species	Ciliated?	NCBI Accession	Species Accession	Clade	
Plantae	Bryophyta	<i>Physcomitrella patens</i>	yes	No B9 proteins observed	-	-	
	Chlorophyta	<i>Chlamydomonas reinhardtii</i>	yes	XP_001693128.1	137074	MKSR-2	
				XP_001695895.1	130473 (Mks1-like)	MKSR-1	
				XP_001698587.1	187742	MKSR-2	
				XP_001700551	POC12	MKS-1	
	Prasinophyta	<i>Ostreococcus lucimarinus</i>	no	No B9 proteins observed	-	-	
	Tracheophyta	<i>Arabidopsis thaliana</i>	no	No B9 proteins observed	-	-	
	Excavates	Kinetoplastids	<i>Trypanosoma brucei</i>	yes	XP_827924.1	Tb10.61.2290	MKSR-1
					XP_828130.1	Tb11.03.0750	MKSR-2
					XP_847174	Tb927.8.3430	MKS-1
XP_001683785					n/a	MKSR-2	
XP_001685341					n/a	MKSR-1	
Diplomonads		<i>Giardia lamblia</i>	yes	XP_001683495	LmjF23.1710	MKS-1	
				No B9 proteins observed	-	-	
				No B9 proteins observed	-	-	
				No B9 proteins observed	-	-	
				No B9 proteins observed	-	-	
Opisthokonts	Ascomycetes	<i>Saccharomyces cerevisiae</i>	no	No B9 proteins observed	-	-	
	Basidiomycetes	<i>Phanerochaete chrysosporium</i>	no	No B9 proteins observed	-	-	
	Zygomycetes	<i>Rhizopus oryzae</i>	no	No B9 proteins observed	-	-	
	Chytrids	<i>Batrachochytrium dendrobatidis</i>	yes	n/a	BDEG_03036.1	MKSR-1	
				n/a	BDEG_03725.1	MKSR-2	
				n/a	BDEG_00264.1	MKS-1	
	Animals	<i>Homo sapiens</i>	yes	NP_056496.1	B9D1	MKSR-1	
				NP_085055.1	B9D2	MKSR-2	
				AAH10061.1	MKS1	MKS-1	
				NP_038745.1	B9D1	MKSR-1	
NP_742160.1				B9D2	MKSR-2		
EDL15835.1				MKS1	MKS-1		
NP_001085984.1				MGC82986	MKSR-2		
NP_001090590.1				Meckelst1	MKS-1		
NP_001086557.1				MGC83744	MKSR-1		
NP_001002394.1				LOC436667	MKSR-2		
<i>Danio rerio</i>	yes	NP_001019544.1	B9like	MKSR-1			
		CAM56561.1	Mks1like	MKS-1			

		<i>Drosophila melanogaster</i>	yes	NP_608998.1	CG9227	MKSR-2
				NP_650470.1	CG14870	MKSR-1
				NP_572804.1	CG15730	MKS-1
		<i>Apis mellifera</i>	yes	XP_393962.2	66524364	MKSR-1
				XP_001120316.1	110748825	MKS-1
				XP_001120495.1	110750832	MKSR-2
		<i>Caenorhabditis elegans</i>	yes	NP_500186.1	Y38F2AL.2	MKSR-2
				NP_497669.1	R148.1	MKS-1
				NP_508203.1	K03E6.4	MKSR-1
		<i>Caenorhabditis briggsae</i>	yes	XP_001677167	CBP10354	MKSR-2
				CAE65900	CBP08737	MKSR-1
				XP_001664663	CBP20416	MKS-1
		<i>Strongylocentrotus purpuratus</i>	yes	XP_795184.2	B9-like	MKSR-1
				XP_787637	FABBlke	MKS-1
				XP_001175727	B9	MKSR-2
		<i>Nematostella vectensis</i>	yes	XP_001618299	225297	MKSR-2
				XP_001631460	209121	MKS-1
				XP_001636548	241009	MKSR-1
<b>Amoebozoa</b>	Dictyostelids	<i>Dictyostelium discoideum</i>	no	No B9 proteins observed	-	-
<b>Chromalveolates</b>	Apicomplexans	<i>Plasmodium falciparum</i>	yes	No B9 proteins observed	-	-
		<i>Cryptosporidium parvum</i>	no	No B9 proteins observed	-	-
	Ciliates	<i>Tetrahymena thermophila</i>	yes	XP_001022773.1	TTHERM_00630490	MKS-1
				XP_001020583.2	TTHERM_00219110	MKSR-1
				XP_001030337.2	TTHERM_01099210	MKSR-2
				XP_001010073.1	TTHERM_00633350	MKSR-2
		<i>Paramecium tetraurelia</i>	yes	XP_001426697.1	hypB9a	MKSR-1
				XP_001432714.1	hypB9c	MKSR-2
				XP_001441845.1	hypB9d	MKSR-2
				XP_001443728.1	hypB9e	MKS-1
	Diatom	<i>Thalassiosira pseudonana</i>	yes	n/a	38153	MKSR-2
				n/a	5008	MKS-1
				n/a	264691	MKSR-1

<sup>1</sup>Classification scheme according to Keeling et al. (Keeling et al., 2005) The tree of eukaryotes *Trends Ecol. Evol.* **20**, 670-676.