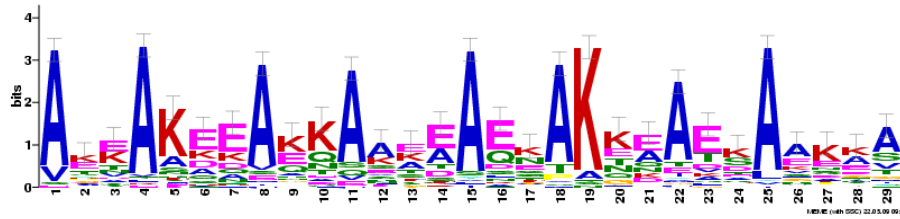


**Figure S2.** The typical tandemly-repeated heptad motif AXXAXXX, predicted to form  $\alpha$ -helical coiled-coil structures, was found in the putative MSP3 proteins analyzed (see sequence IDs in Table S2) using the MEME algorithm (<http://meme.sdsc.edu/meme4/cgi-bin/meme.cgi>). Numbers in parentheses refers to amino acid position.



	<u>AXXAXXXAXXAXXXAXXAXXXAXXAXXX</u>
PfMSP3.1-FC27 (94)	AKQASQDAEQAAKDAENASKEAEEAAKEA
PfMSP3.1-FC27 (138)	ACTAASKAKKAVETALKAKDDAETALKTS
PfMSP3.1-CSL2 (94)	AKQASQDAEQAAKDAEQAAKDAEQASKDA
PfMSP3.1-CSL2 (138)	ACTAASKAKKAFETASNAKKAESALKTN
PfMSP3.1-CSL2 (178)	SRKTKEYAEQVEKDYERAKNAYQKANQAV
PkMSP3 <sub>140</sub> (202)	AENAVQEIQKAKKEADIAKNAATKLMEEES
PkMSP3 <sub>140</sub> (501)	VPEVTEAVKSAKEEAENAKKEEQAEEMES
PkMSP3 <sub>172</sub> (241)	AEKAKEEAENAVKEIQKAKEEADIAKAA
PcyMSP3.10 (243)	ATEAKKQAEKAKEAEEAKTQEKKAEKAG
PcyMSP3.10 (435)	AETARNEAKNAENAAEEAKQAACKANDAT
PcyMSP3.10 (110)	AKTEKENLPDSANDAETAANNVVDARNGL
PvMSP3.1 (220)	AYELKKEAEKAQEEAEAakteIEKLSKVY
PvMSP3.1 (453)	AKNAKDKATKAAKEAEEAKKQAEKAEKIT
PvMSP3.1 (593)	AIAADVLAQKASTEAAQSLKQEAELAENI
PvMSP3.2 (227)	AEEAKKEAEKAQTEVEAAKKEAEKVMAEA
PvMSP3.2 (688)	EKVAKAEVDKATSEAEKAKTAAGEAKNAS
PvMSP3.3 (101)	AQNAAKAEAEKAAKAAESAKENTLDALEKV
PvMSP3.3 (373)	VEKAKEAEKQAKSEAEKAKGMADDAGGKG
PvMSP3.4 (231)	AYEAKKKARESKVAENAKNDATSAASGS
PvMSP3.4 (388)	VKSAKSEAVNQAAAADKAKKEAEEAANSA
PvMSP3.4 (510)	AQEAAQKAKEQEAELKAKGNAQTASDQA
PvMSP3.4 (821)	AGVAKEDAKKAAASAEQPKKEAESAEEGA
PvMSP3.5 (223)	AYEAKRNANDSKEAAEKTKKDATSAVSDS
PvMSP3.5 (508)	AQEAAKRAQEQDVAASTAKGNAETAKEEA
PvMSP3.5 (619)	ADKASAAKTADKAAASAKKEADDATTES
PvMSP3.5 (821)	AGVAKEDAKKAAASAEQPKKEEESAEEEDA
PvMSP3.6 (170)	AKEKKETANTALGEAQKAKKEMETAHAVIV
PvMSP3.6 (204)	AMEAEKESQKANEEAQKANQEAENAKNNI
PvMSP3.6 (260)	AKGAIENAKQASTRATGAAQKATGAAQKA
PvMSP3.6 (358)	ANKAKKEAAAAAKTSSKSAKLTAGRAVKKA
PvMSP3.6 (494)	AEKANAKAKQAASEAQEAKTQTEKAAKAA
PvMSP3.6 (689)	ATKAADEAGKAATAADNTKKAATSAEAKV
PvMSP3.7 (173)	ATSAKEQAQKASGEAETAKEKAAAATKAA
PvMSP3.7 (837)	AEAAKDEAKKAAASAEQPKKEAESAVEDA
PvMSP3.8 (215)	AQKAKEEAQKANEEAQNANKNFVMIKPKQ
PvMSP3.8 (362)	AKKAKDEAAAAAKTSSKSAKLAATRAAKKA
PvMSP3.8 (501)	AEKANAKAKQAASEAQEAKTQTEKAAKAA
PvMSP3.8 (696)	ATKAADEAGKAATAADNTKKAATSAEAKV
PvMSP3.8 (98)	AKKAKADAEQAEAEAQKAKQKILDAEKET

PvMSP3.9 (113)	AENAAEEAQKFATQAQGAEEQAAQAAQAA
PvMSP3.9 (162)	ATDAKEEAENESREANNAKEEADAAARKA
PvMSP3.9 (306)	ATDAKEEAENESREANNAKEEADAAARKA
PvMSP3.9 (590)	AENAKKEAQQAQQAALQAKTDAKKYADQS
PvMSP3.9 (948)	AEAAKDEAKKAVESAESKGEAESAVEDA
PvMSP3.10 (114)	VKTAKDESATAAKDAETAKKNAVDAGKGL
PvMSP3.10 (350)	VPEAQREAKLATQTASKATEATEAGKKA
PvMSP3.10 (446)	ATEAKEQAEKAKAAEEAKTHGEKAEKVG
PvMSP3.10 (502)	AVDALEEAYAVEAHLARTKNAESAASAT
PvMSP3.11 (143)	VRTAKEQETKALEAAQVVKGLAEKAEPTT
PvMSP3.11 (78)	ADEAKEAFKKAQSLAEEAKEKAAEAAKAV