S5 Fig. Alignment of AglB from *Mc. maripaludis* and *S. acidocaldarius*, using EMBOSS Needle.

maripaludis 1 MGEFLNKVSDFFKKNEKIKIILILLFIGMMSFQIRAQTADMAFTDN---- 46

 |.|..|.|:.....|.|.

acidocaldariu 1 ----------------------------MQSTSILARIDKFKFLDAIIIG 22

maripaludis 47 -----SYLQDMFSDDNGRMYLTALDPYYYLRMTENYVNNDYSNVGETTVG 91

 |.|..:.|.......:...|.:|.. |:.:.....|

acidocaldariu 23 SLALFSILIRIISITAFPQTINGFDSWYLF----------YNALLIVKAG 62

maripaludis 92 IDGENIPYDTIQYAPPG------REAGLVSALSIATVLVYSVW-NSIDST 134

 .:...:|.|...:.|.| ...||...:::.:|..||:: .:|..|

acidocaldariu 63 GNWYAVPPDVHAWFPWGYFIELENTIGLPFLVALFSVPFYSIFGQNIVYT 112

maripaludis 135 VTIMNAAFWVPAIMSIFLGIPVFFIVRRNTASNIGGLVGALLLISSPSLL 184

 :|::: |.::.....:..|..|...|.|.:||.:.|.:...:|||.

acidocaldariu 113 LTLVS-----PIVLDGIGVVAAFLAVESITNSRVGGYIAAAITAFTPSLT 157

maripaludis 185 YKTSAGFSDTPIFEILPLLFIVWMIMEAIHEQENSKKSGIFGGIAAILIG 234

 ||...|......:..:.:||.::.:..|| .||..::|..|.|:|.

acidocaldariu 158 YKNILGSLPKTSWGGVFVLFTIYFLSLAI-----KKKKPLYGIPAGIMIF 202

maripaludis 235 LYPMMWSGWWY---AFDITAGFLVLYTAYEYLTKSKNLKNVITTSLITLV 281

 |..:.|.|:.| :..|.|..:||: |..:.|:...:|:.

acidocaldariu 203 LANITWGGYTYIDISLAIAAFLIVLF----------NKNDEISAKTLTIS 242

maripaludis 282 G--GAILVSLSTGLSGFINWILSPIGFTVINEATKITGWPNVYMTVSELA 329

 | .|.|.|||....||::.:...:...:| .:..:.::|: ...

acidocaldariu 243 GITAAFLTSLSPNTIGFMSEVAHGLALLII----PLFLYLDLYL---RRV 285

maripaludis 330 IPTVTDIIENS---VGNIWLLIAGISGILLSFVSFKHDKQKIDIKYALYL 376

 :| .||:::. :|...:|: :|.::|..|:|| .|.|..:|...:

acidocaldariu 286 LP--KDIVDSKNIVIGAAIILL--VSLVVLGSVAFK--VQLIPSRYYAII 329

maripaludis 377 TLWLIATVYAATKGIRFVALMTPALA--IGIGIFAGQIENIIKRY----- 419

 ..:...||........::.....|:. .|||:|. :||..|

acidocaldariu 330 NPFFQFTVPIDRTVAEYIPQSIAAMIQDFGIGLFL----SIIGIYFLLTR 375

maripaludis 420 EKKVEYILYPVIGILSVITLIKYGGE----LFNILVPTTYVPIAVYLSII 465

 ::.:..|...|:|..|: ||.. |||. |.|: :.

acidocaldariu 376 KQDMAGIWLVVLGAASI-----YGTSEQPYLFNY---TIYI-------VA 410

maripaludis 466 ALLVLAVYKIIDIISEKEQAVKKVFGILLAFMLVFPSMAAAVPFYTAP-- 513

 ||..:||.::.....|::..:..:..:.|..:.:......||....||

acidocaldariu 411 ALAGVAVAELFSRFMERKIRIAPILMLTLIGVALLADAGIAVEASYAPQA 460

maripaludis 514 ---------TMNNGWMDSLSWIKSETPENSVVTCWWDNGHIYTWATRKMV 554

 |.|..|:.:|.||...||.|:.:..|||.|

acidocaldariu 461 LINSSTSYLTTNYAWISALDWINQNTPNNAFILSWWDYG----------- 499

maripaludis 555 TFDGGSQNTPRAYWVGHAFSTSDENLSVGILRMLATSGDSAYDDDSILIK 604

 ||: ||. |:....|:

acidocaldariu 500 ------------YWI-HAV------------------GNRTVIDE----- 513

maripaludis 605 KTGSIKDTVDILNKILPLTRTEAKASL-VNNYDLTDAEAEEVLD------ 647

 |..|..|:.:..|.: :|| ::.|..||:

acidocaldariu 514 ------------NNTLNGTQIKLMAEMFLNN----ESFAVNVLENDFHLY 547

maripaludis 648 -LTHPKVTNPDYLITYNRMTSIASVWSMFGNWNFSLPASTENSDREMGYY 696

 ..:|..|.|.|::.|:.:|... |.:.:..|....| |......:||.

acidocaldariu 548 PYGNPNYTRPVYIVAYDAVTEYI-VNNQYPVWFIGYP--TNFPGTFIGYT 594

maripaludis 697 QQLGGSAQDINGTTVV--YIPLQETDSYRVINILEITD-----SEIKSAN 739

 ..||..|:.|...|.: | .|:|| :|...|.: ::..|..

acidocaldariu 595 TSLGDIAKAIGAMTTIAGY----NTNSY--VNTTYINETASYAAQYNSQL 638

maripaludis 740 AVIDSNNQTSMQSPNFHKLILKVNGNVYEQETNENGDYSEIVRLEKLSDG 789

 |.|.:|:.....:|..:..:: |::: |..::.|:.|

acidocaldariu 639 ASIIANSLPMAWTPKTYNSLI---GSMF------------IEAIQSLNQG 673

maripaludis 790 TYQVYAWVSSKNLEDSIYTKLHFLDGYGLEKISLEKESVDPTSYGIQPGF 839

 ..|....:|...|..|..|.|:..:.. |.:::| .| |

acidocaldariu 674 PVQAPFSISLSQLLQSSSTSLYNPNAL-LPRVNL--------MY-----F 709

maripaludis 840 K-VYSVDYGTDYLN------------------------------- 852

 | ||...:.....|

acidocaldariu 710 KPVYIALFPLSVTNALGGEAIVYIMVYIYQFVMPNVIIPPTISTA 754