

MrkA (1) ---MKK**V**LLSAAMATAFFGMAAA**A**NAAD**T**NVGG**Q**VN**F**FGK**V**TDV**S****C**TVSV  
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 MrkF (1) MKGL**F**KNTIAWLLFCGSLAAPS**A**WGF**E**T**N**YDR**G**RV**D**F**A**GR**V**TD**I****S****C**SVAL

MrkA (48) **NG**--QGS**D**AN**V**Y**L**SP**V**TL**E**V**K**AAA**A**D**T**Y**L**K**P**K**S****F**T**I**D**V**S**D****C**QAADG---  
 MrkF (51) **NG**QHAGSG**N**V**L**AP**V**SL**A**EV**H**DR**G**AG**A**FM**K**P**Q****P****F**TL**A**LS**N****C**QLRHDGGA

MrkA (93) TK**Q**DD**V**SK**L**GV**N**WT**G**GN**L**LAGATA**K**Q**Q**GY**L**AN**T**EA**A**GA**Q**NI**Q**L**V**L**S**T**D**NA  
 MrkF (101) AS**Q**DE**V**RR**V**SV**R**W**V**D**G**FL**L**T**A**VGN**E**N**A**GY**L**AN**T**LP**D**GA**Q**NI**Y**L**A**L**S**T**N**DN

MrkA (143) T**A**L**T**--**N**K**I**I**P**GD**S**T**Q**P**K**AAG**D**A**S**A**V**Q**D****G**A**R****F**T**Y****Y**V**G**Y**A**T**S**T**P**T**T**V**T**T**G**V  
 MrkF (151) NT**L**D**K**SN**K**I**V**P**A**D**P**Q**Q**N**Q**V**R**L**Q**E**S**A**V**S**G**GL**F**T**Y****Y**V**G**Y**V**S**P**T**P**K**S**A**T**S**G**P

MrkA (191) **V****N**S**Y**A**T****Y**E**I**T**Y**Q  
 MrkF (200) I**T**S**W**A**T**W**E**L**V**Y**N**

**Fig. 5.** Sequence comparison of MrkA and MrkF. The conserved Cys residue contained in the pilin domain are underlined and shown with bold word. The conserved motifs contained in the pilin domain are marked with boxes. The vertical arrow indicates the predict cleavage site of signal peptide.