**Supplementary Material**

**Supplementary Data**

AA sequences. Cysteines indicated in red and bold font.

*E. coli* Fur (UniProt ID P0A9A9)

MTDNNTALKAGLKVTLPRLLILEVLQEPDNHHSADLYKRLIDMGEEIGLATVRYRLQDFDAGICLDCGK VieFSDDSIEARQREIAAKHGIRLNTNHSLYLYGHCACGDECREDEHAHEGK

*S. aureus* Fur (UniProt ID 5HFK6)

MNTNDAIKLKENGLKYTDKRKMDLDIFVEEDKYINAKYIQVMDENPGISFDTIYRNHLHFKDLGICTNHuanggFGKSVFELTQQHHDDHLICLDGECREDEHAHEGK

Sequence alignment (BlastP, RRID:SCR001010); 30% identity, 49% similarity, 6% gaps

|   | SaFur   | EcFur       | SaFur   | EcFur   |
|---|---------|-------------|---------|---------|
| 10| LKENGLK TDRKVMLLDIFVEEDKY-INA KYIQVMDENPGISFDTIYRNHLHFKDLGI | LKKAGLKVTLPRLLILEVLQEPDNHHSADLYKRLIDMGEEIGLATVRYRLQDFDAGI | 68 |
|   | LK+ GLK T R +L++ E D + ++A+ + + + + I T+Y R L F D GI | LK+ GLK T R +L++ E D + ++A+ + + + + I T+Y R L F D GI |
| 69| IENTE LDGEMKFRIACTNH HHHFFICEKCGDTKVIDYC---PIDQIKSLPGVNIHDKLEVYGVESCQD | VTRHNFEGGKSVE LTQQHHDDHLICLDGC---KVIEFSDDSIEARQREIAAKHGIRLTHN |
|   | + +G HHH H IC CG KVI++ I+ + + G+ + H | + +G HHH H IC CG KVI++ I+ + + G+ + H |
| 124| KLEVYGVCEC | SLYLYGHC |
| 126| L +YG C | 133 |
| 126| SLYLYGHC | 133 |