

Figure S1. Mortality in DBA/2 Mice. Groups of 16 DBA/2 mice were infected intraperitoneally with 2000 cfu *Salmonella* per mouse. Moribund animals were euthanized. (■) wild type, (○) *sodCII::phoA*, (□) *sodCII::kan*, (▲) *sodCII::pRR10(ΔtrfA)*

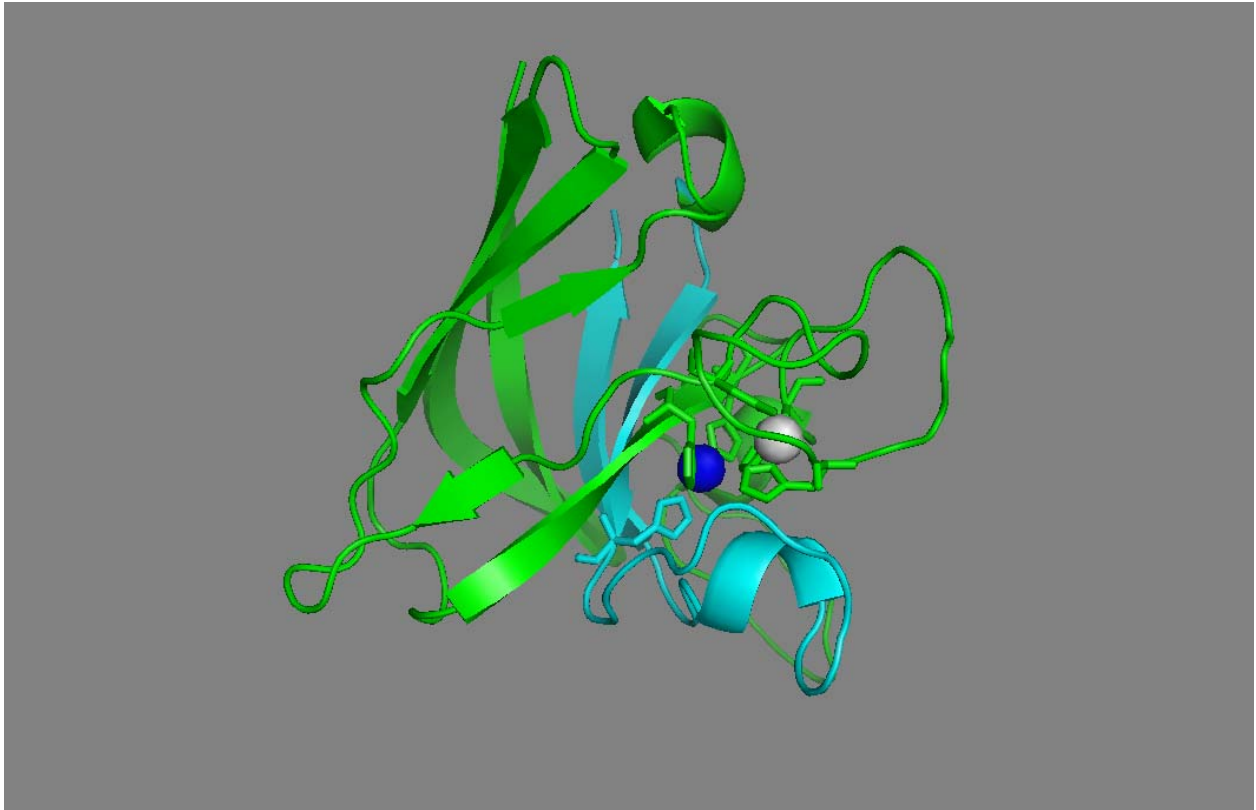


Figure S2. Structure of Salmonella SodCII. The protein region deleted in the insertional mutant is shown in cyan. The region encompasses one copper ligand. The copper ion is colored blue, and the zinc ion is grey. The Figure was generated with Pymol.

A)

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          1                               50
          |                               |
SodCII  ASEKIVEMNLV TAQGVGQSIG TVVIDETEGG LKFTPHLKAL PPGEHGFHIIH
human   ..ATKAVCVL  KGDGPVQGII NFEQKESNGP VKVWGSIKGL  TEGLHGFHVH
                                         * *

          51                               99
          |                               |
SodCII  ANGSCQPAIK DGKAVAAEAA GGHLDPQNTG KHEGPEGQG. HLGDLFVLVV
human   EFGD..... ..NTAGCTSA GPHFNPLSR. KHGGPKDEER HVGDLGNVTA
                                         * *

          100                             143
          |                               |
SodCII  NNDGIASEPV TAPRLKSLDE ..VKDKALMI HVGGDNM... .SDQPKPLGG
human   DKDGVADVSI EDSVISLSGD HCIIGRTLIVV HEKADDLGKG GNEESTKTGN
                                         *

          144           154
          |             |
SodCII  GGMRYACGVI K...
human   AGSRLACGVI GIAQ

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B)

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101
|
Wt      DSVISLSGDHCCIIGRTLVVHEKADDLGKGGNEESTKTGNAGSRLACGVIGIAQ-stop
Val 118 DSVISLSGDHCCIIGRTLktgp-stop (nucleotide substitutions)
Leu 126 DSVISLSGDHCCIIGRTLVVHEKADDgerwk-stop (2-bp deletion)
Leu 126Z DSVISLSGDHCCIIGRTLVVHEKADD-stop (1 nucleotide substitution)
Lys 127 DSVISLSGDHCCIIGRTLVVHEKADDLGgerwk-stop (4-bp insertion)
Glu 132 DSVISLSGDHCCIIGRTLVVHEKADDLGKGGNd-stop (2 bp insertion)
Intron 4 DSVISLSGDHCCIIGRTLVfftgp-stop (deletion of the whole exon 5)

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Figure S3. Deletions in Cu,ZnSODs. A) Amino acid alignment of *S. Typhimurium* SodCII and human Cu,ZnSOD. Numbers refer to SodCII amino acid residues. Arrows indicate insertion/deletion points in SodCII (red) or human Cu,ZnSOD (blue). Asterisks indicate metal ligands. B) Deletion mutants identified in patients affected by familial forms of amyotrophic lateral sclerosis (readapted from 56). All identified deletions are located between exons 4 and 5, within β -strand 7 or loop 7,8.