Physiological and proteomic analysis of *Stenotrophomonas maltophilia* grown under the iron-limited condition

ABSTRACT

Aims: to study physiological and proteomic analysis of Stenotrophomonas maltophilia grown under iron-limited condition. Methods: one clinical and environmental S. maltophilia isolates grown under iron-depleted conditions were studied for siderophore production, ability to kill nematodes and alteration in protein expression using isobaric tags for relative and absolute quantification (ITRAQ). Results & conclusions: siderophore production was observed in both clinical and environmental strains under iron-depleted conditions. Caenorhabditis elegans assay showed higher killing rate under iron-depleted (96%) compared with normal condition (76%). The proteins identified revealed, 96 proteins upregulated and 26 proteins downregulated for the two isolates under iron depletion. The upregulated proteins included several iron acquisition proteins, metabolic proteins and putative virulence proteins.

Keyword: Iron depletion; ITRAQ; Proteomic; Siderophores; Stenotrophomonas maltophilia; Virulence factors