

Original article

Characterization of outer membrane proteins participating in iron transport in *Pasteurella multocida* serotype A3

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Abstract

Iron-regulated outer membrane proteins (IROMPs) of *P. multocida* serotype A3, which function as receptors for complexes containing iron ions, are induced by iron deficiency in the bacterial growth environment. Analysis of an electrophoresis image of proteins isolated from bacteria grown on medium supplemented with 2,2'-dipyridyl revealed expression of 16 new proteins that were not noted in the case of the bacteria grown in standard conditions, with molecular weights from 30 to 160 kDa. Induction of IROMP expression occurred within 30 minutes after restricted iron conditions were established. In immunoblotting, distinct reactions were noted for proteins of molecular weight ranges of 25-49 kDa, 61-95 kDa, and 108-214 kDa. Proteins of the molecular weight of 68, 75 and 86 kDa were analysed using mass spectrometry and matched with the highest probability to proteins in the NCBI data base. Several dozen different proteins with similar amino acid sequences were matched to each sample.

Key words: *Pasteurella multocida*, IROMPs, iron-regulated outer-membrane proteins