

# Similar Properties of Outer Membrane Protein Across different Strains of *Pasteurella multocida* Suggest Common Mechanism of Action

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**Abstract**—*Pasteurella multocida* is a non-motile coccobacillus Gram-negative pathogenic bacterium belonging to Pasteurellaceae family. Haemorrhagic septicaemia in cattle and buffaloes and other diseases like fowl cholera (turkey, chicken, duck), Septicaemic pasteurellosis (sheep, pig, goat), Snuffles (rabbit) are caused by different strains of *Pasteurella multocida*. In this analysis we have taken three outer membrane proteins (*vacJ*, *ompW* and *skp*) from different strains of *Pasteurella multocida*. The analysis of physico-chemical properties of the protein sequences namely number of positively and negatively charged amino acids, molecular weight, Theoretical pI, instability index and grand average of hydrophobicity (Gravy), O-GlcNAc sites, Protein **phosphorylation sites**, number of transmembrane helices, Kinase specific phosphorylation sites etc. reveals that these protein sequences have broadly similar properties and contain minor differences. Our results suggest common mechanism of action of these proteins belonging to different strains and infecting different hosts. This may be useful for novel strategies to combat *P.multocida*.