There is a need for rapid detection of these organisms to prevent the spread of vancomycin-resistant MRSA in hospitals since these infections are virtually untreatable with current antibiotics. The increased use of antibiotics, namely mupirocin and intra-dermal 5% mafenide, has coincided with the emergence of multi-drug resistant among MSSA isolates H591 and D547.

We employed a label-free mass spectrometry-based approach to analyze the proteomic profiles from four strains of MSSA and two strains of MRSA (MSSA) for the detection of potential markers for strain differentiation. The overlay of the proteins identified between the strains was investigated.

A number of protein biomarkers were identified and quantified which might prove useful for clinical diagnostic purposes and will be further investigated in future studies for clinical diagnostic purposes will be further investigated in future studies for clinical diagnostic purposes will be further investigated in future studies for clinical diagnostic purposes will be further investigated in future studies for clinical diagnostic purposes.

There is a need for rapid detection of these organisms to prevent the spread of vancomycin-resistant MRSA in hospitals since these infections are virtually untreatable with current antibiotics. The increased use of antibiotics, namely mupirocin and intra-dermal 5% mafenide, has coincided with the emergence of multi-drug resistant.

The resulting mixture was diluted (x60) and spiked with (Promega), 1:50 (w/w) enzyme:protein ratio. Cells were harvested and the proteins extracted by a two sample preparation process. Table 1 shows an overview of the proteins detected from their characteristic peptides. Most matching peptides fall into the same protein and include such proteins as e.g. glyceraldehyde phosphate dehydrogenase, protein synthesis etc. DNA binding proteins are a valuable tool in cell biology and signal e.g. p53 phosphorylation

The isolates showed a high degree of similarity in protein composition with four strains selected.

Many of the proteins identified had to known functions and could thus be described as hypothetical proteins. Analysis of the data showed that peptides and hence proteins unique to either the methicillin sensitive (41%) or the methicillin-resistant strain (30%) were identified. A significant difference between resistant and sensitive strains was the presence of a peptide within a hypothetical protein. In particular a protein identified in both samples although each strain had a unique peptide identification shown in the mass chromatograms in Figure 7, where the mass peak two peptides is shown from 2 replicates in the bottom panel from an MSSA strain and an MRSA strain in the top panel.

A label free mass spectrometry-based approach was used in the present study to analyze the proteomic profiles from four strains of MSSA and two strains of MRSA (MSSA) for the detection of potential markers for strain differentiation. The overlay of the proteins identified between the strains was investigated. A number of protein biomarkers were identified and quantified which might prove useful for clinical diagnostic purposes and will be further investigated in future studies for clinical diagnostic purposes will be further investigated in future studies for clinical diagnostic purposes will be further investigated in future studies for clinical diagnostic purposes will be further investigated in future studies for clinical diagnostic purposes.

The proteins, SGSEEWDAK and SGSEEWDAK identified in the putative lipoprotein sequences below.

Hultenby et al. (2006) detected the presence of a high degree of similarity between MSSA H591 and D547.

The peptides, SGSEEWDAK and SGSEEWDAK identified in the putative lipoprotein sequences below.

Hultenby et al. (2006) detected the presence of a high degree of similarity between MSSA H591 and D547.

The peptides, SGSEEWDAK and SGSEEWDAK identified in the putative lipoprotein sequences below.

Hultenby et al. (2006) detected the presence of a high degree of similarity between MSSA H591 and D547.