

The Importance of the RGD motif of Streptococcal protein IdeC in Streptococcus canis infection

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Streptococcus canis is an opportunistic pathogen that predominantly infects cats and dogs. Although, through contact with companion animals, human infections can also occur. *S. canis* colonizes the skin and mucosa of the host and can cause a variety of invasive diseases.

IdeC is an IgG specific protease of *S. canis*. A secreted protein acts on IgG by cleaving at the hinge region. IdeC contains an RGD motif; the most common amino acid sequence involved in adhesion to the extracellular matrix. This motif had been shown in several bacterial proteins to facilitate adhesion or invasion into host cells. The presence of this motif paired with the ability of IdeC to bind back to the bacterial surface suggests a possible role for IdeC in adhesion or invasion.

Here, recombinant protein is used to coat fluorescent latex beads, the interactions between these beads and host cells were then studied.

Based on fluorescence microscopy analysis, there is evidence that IdeC interacts with host cells in a RGD dependant manor. Further, electron microscopy indicates that IdeC coated beads are internalised by host cells.

In conclusion, IdeC may have a secondary function in bacterial adhesion and invasion into host cells.

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