

# Humoral immune response anti K99 pilus from enterotoxigenic Escherichia coli in experimentally inoculated calves

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The bovine model is extremely interesting to study several basic aspects of mucosal local immunity. Many reports have shown that, in young calves, the infectivity of enterotoxigenic Escherichia coli may be inhibited by passively administered antibodies anti K99 pilus. We have measured, by immunoradiometric assays, the IgG response anti K99 pilus in the serum of calves, deprived of colostrum and orally inoculated with enteropathogenic K99+ E. coli. Although variable levels of IgG anti K99 pilus were detected their protective value could not be ascertained in vivo due to the acute development of the infection. In an effort to correlate the presence of serum antibodies anti K99 pilus with their protective capacity, an ex-vivo assay to monitor the interaction of radiolabeled K99 pilus with the bovine mucosa was standardized. Paradoxically, although K99 pilus, purified by standard procedures, was recognized by polyclonal rabbit and calf antisera, its interaction with the bovine intestinal m