

Antiadenovirus activity of milk proteins: lactoferrin prevents viral infection

*Daria Arnold, Assunta Maria Di Biase, Magda Marchetti, Agostina Pietrantonio, Piera Valenti,
Lucilla Seganti and Fabiana Superti*

ABSTRACT

Different milk proteins were analysed for their inhibitory effect on adenovirus infection in vitro. Proteins investigated were mucin, alpha-lactalbumin, beta-lactoglobulin, bovine lactoferrin, and human lactoferrin. Results obtained demonstrated that mucin, alpha-lactalbumin, and beta-lactoglobulin did not prevent the viral cytopathic effect, **whereas lactoferrin was able to inhibit adenovirus replication in a dose-dependent manner**. Further experiments were carried out in which lactoferrin was added to the cells during different phases of viral infection. Results obtained showed that lactoferrin was able to prevent viral replication when added both before, or during the viral adsorption step, or when present during the entire replicative cycle of adenovirus, demonstrating that its action takes place on an early phase of viral replication.