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Title: Effectiveness of human, camel, bovine and sheep lactoferrin on the hepatitis C virus cellular infectivity: comparison study
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Abstract: Purpose: The prevalence of HCV infection has increased during recent years and the incidence reach 3% of the world's population, and in some countries like Egypt, may around 20%. The developments of effective and preventive agents are critical to control the current public health burden imposed by HCV infection. Lactoferrin in general and camel lactoferrin specifically has been shown to have a compatitive anti-viral activity against hepatitis C virus (HCV). The purpose of this study was to examine and compare the anti-infectivity of native human, camel, bovine and sheep lactoferrin on continuous of HCV infection in HepG2 cells.
 Material and methods: Used Lfs were purified by Mono S 5/50 GL column and Superdex 200 5/150 column. The purified Lfs were evaluated in two ways; 1. the pre-infected cells were treated with the Lfs to inhibit intracellular replication at different concentrations and time intervals, 2. Lfs were directly incubated with the virus molecules then used to cells infection. The antiviral activity of the Lfs were determined using three techniques; 1. RT-nested PCR, 2. Real-time PCR and 3. Flowcytometric.
 Results: Human, camel, bovine and sheep lactoferrin could prevent the HCV entry into HepG2 cells by direct interaction with the virus instead of causing significant changes in the target cells. They were also able to inhibit virus amplification in HCV infected HepG2 cells. The highest anti-infectivity was demonstrated by the camel lactoferrin.
 Conclusion: cLf has inhibitory effect on HCV (genotype 4a) higher than human, bovine and sheep lactoferrin.

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