



Binding of Adenovirus Type 36 to Human Adipocytes (SGBS Cells)

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Scientific project, 30 ECTS

Biomedical Analysis Programme, 180 ECTS



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Date of pass: 2014 - 01 - 17

Abstract

Obesity and overweight are one of the five leading risks for global deaths. Since 1980 the prevalence of obesity has doubled and still increases. The etiology of obesity is multifactorial but in the last 20 years different studies have shown that six pathogens could be associated with it. The first viruses which were considered to cause obesity in humans are Adenovirus type 36(HAdV-36) and SMAM-1 avian adenovirus, supposedly through direct effect on adipocytes. In this study it was observed if HAdV-36 preferentially binds on preadipocytes, differentiating adipocytes or mature adipocytes. Surprisingly, the results indicated that HAdV-36 did not bind to adipocytes, which suggested that these cells are not permissive for HAdV-36 infection. Thus, the mechanism responsible for HAdV-36 induced obesity, does not involve direct interaction with adipocytes.

Keywords

Infectobesity, adenoviral obesity, adenovirus type 36 (HAdV-36), SGBS, preadipocytes