

Adenovirus is a double-stranded DNA virus that is responsible for localized infections, such as upper respiratory tract infections. The virus takes over the target cell through many mechanisms, in particular taking control of host cell gene expression mechanisms as well as controlling host cell protein synthesis machinery. One of the functions of the adenovirus E4 11k protein is in turning off host cell protein synthesis and regulating late viral gene expression. E4 11k from all adenovirus subclasses has been shown to disrupt cellular RNA processing bodies (P-bodies), and adenovirus serotype 5 has a direct interaction with a P-body protein, Ddx6. Our research goal is the identification of the binding site of Ddx6 on the E4 11k protein. Once this site is narrowed down to a single amino acid or sequence of amino acids, we aim to determine whether or not the binding of E4 11k with Ddx6 and later disruption of P-bodies during an adenovirus infection is involved in the control of host cell and late viral protein synthesis.