

## **Structure and Function of HIV Rev Complexes with Human DDX21**

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HIV attacks human immune cells. During this process it hijacks a number of host proteins to multiply within the human body. Recently, the human protein DDX21, which is involved in many processes including cancer regulation and immune response, has been shown to be important for the HIV virus life cycle.

We now know that the DDX21 protein is used by a viral protein HIV-1 Rev. Specifically, Rev is responsible for moving HIV RNA throughout the human cell, and DDX21 is involved in this Rev-mediated transportation process. The current work is focused on understanding exactly what role DDX21 plays in this process.

Earlier work in our lab describes the role of viral protein Rev during infection. Further, we have described how another human protein, DDX1, helps Rev during this process. We would now like to know what role DDX21 plays. We work towards understanding this contact at molecular level. Our work will provide the foundation for developing drugs targeting DDX21. Knowing how DDX21 assists in exporting viral RNA at atomic scale could help researchers to design unique drugs targeting to block viral RNA export and thereby reduce HIV infection.