EED, a Cellular Partner of the Viral Proteins MA, IN and Nef from HIV-1

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The human protein EED (Embryonic Ectoderm Development) seems to be important during HIV-1 replication cycle, interacting with the viral proteins MA, IN [1] and Nef [2].

In vitro, data from mutagenesis studies, pull-down assays, and phage biopanning suggest that the interaction between EED and IN requires the integrity of the two C-Terminal WD-40 motifs of EED. Besides, EED shows an apparent positive effect on IN-mediated DNA integration reaction *in vitro*, in a dose-dependent manner. *In situ* analysis by immunoelectron microscopy (IEM) shows that IN and EED colocalise in the nucleus and near nuclear pores [3].

EED displays along its amino-acid sequence 7 repeated WD-40 motifs and should be folded as a β-propeller homolog to the G-protein β [4]. The structure of this β subunit has been used as a template in order to obtain a model of EED. Antigenic domains localised on loops due to interact with viral partners have been confirmed by phage-display.

Crystallisation trials are under way in order to determine crystallographic structures of EED and/or in complex with its viral partners and in particularly with Nef.

[1] Peytavi R., et al., *J. Biol. Chem*., 1999, **274**, 1635. [2] Witte V., et al., *Molecular Cell*, 2004, **13**, 179. [3] Violot S., et al., *J. Virol.,* 2003*,* **77**, 12507. [4] Sondek J., et al., *Nature,* 1996*,* **379**, 369.

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