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**RISE program**

**Title:** Structure and interactions between the polyprotein Gag and the subdomain CAPSID of the Human Immunodeficiency Virus Type 1 (HIV-1).

**Abstract:**

Gag is the primary structural protein in the maturation of the human immunodeficiency virus type 1 (HIV-1). Approximately 50% of the virus mass is composed Gag. Gag self-assembles, via its capsid domain, into the lattice of the immature virion during particle release. While significant progress has been made towards a detailed structure of the mature capsid lattice formed after proteolytic cleavage of Gag, important questions remain regarding the maturation process. We apply nuclear magnetic resonance (NMR) spectroscopy to characterize proteins derived from Gag. The aim of this study is to determine the dynamics and interactions between these proteins during viral maturation and their relation to it focusing primarily on Gag subdomains: Capsid, Capsid c-terminal domain (CTD), and Matrix-Capsid-SP1-Nucleocapsid (Gag).