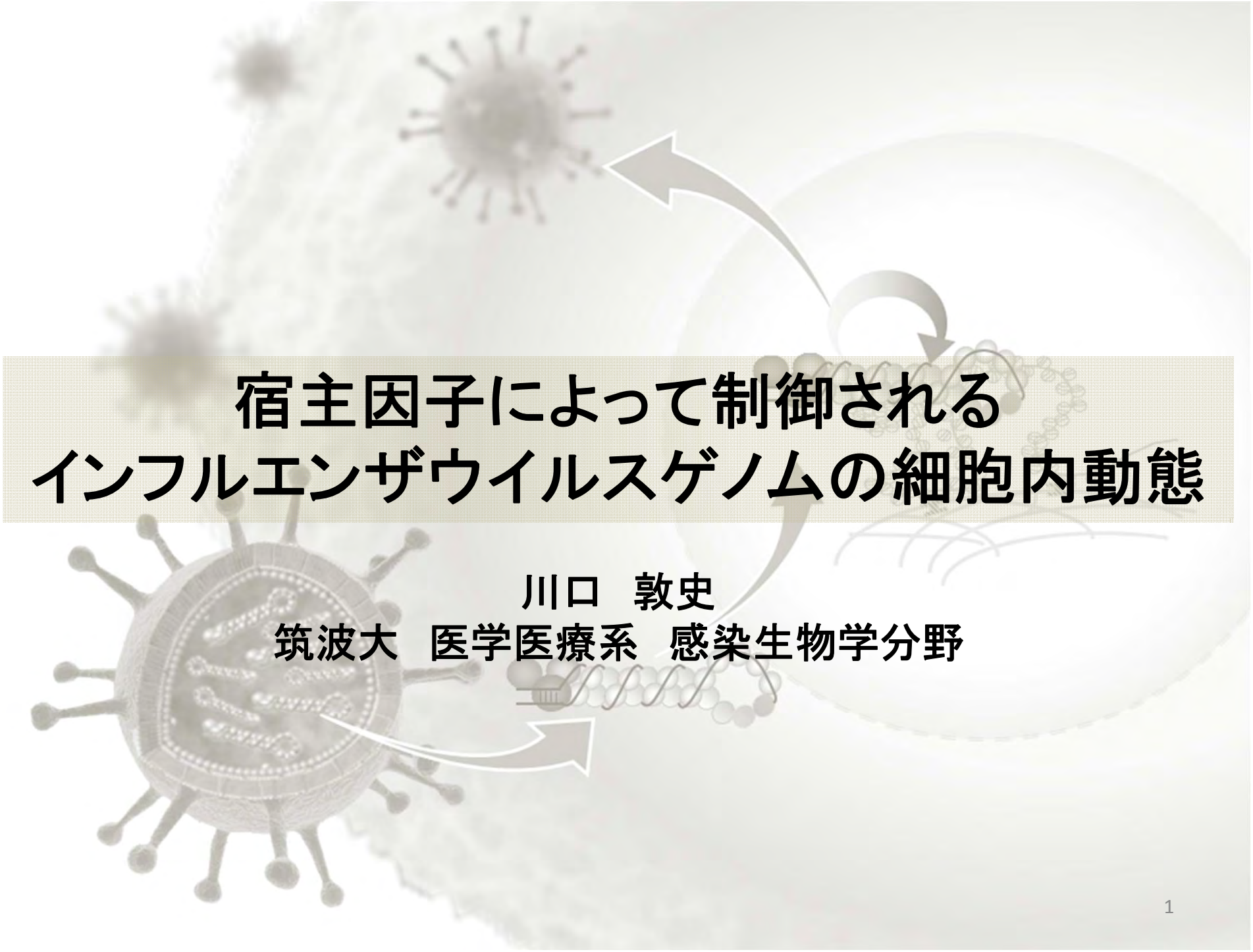
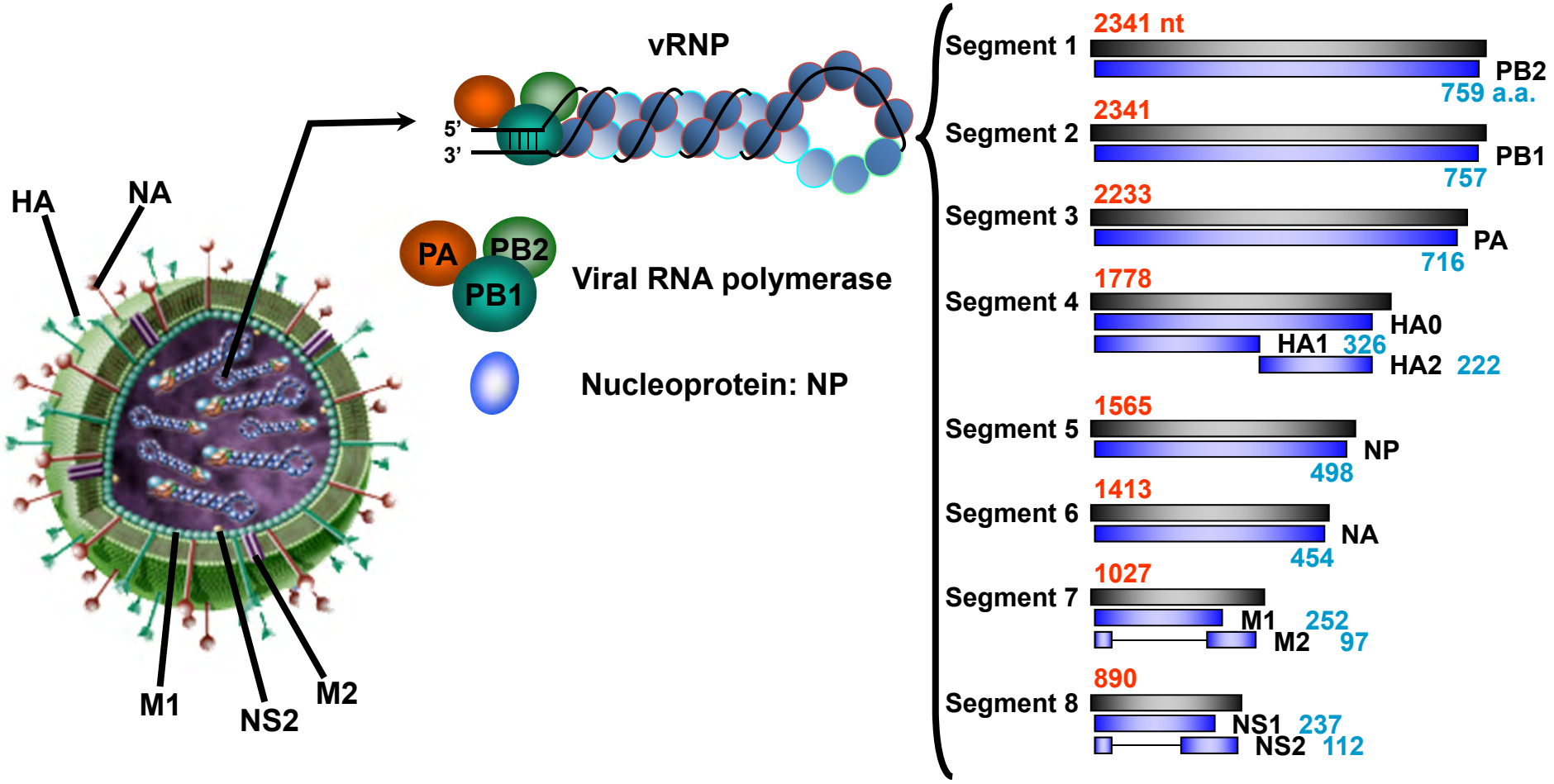


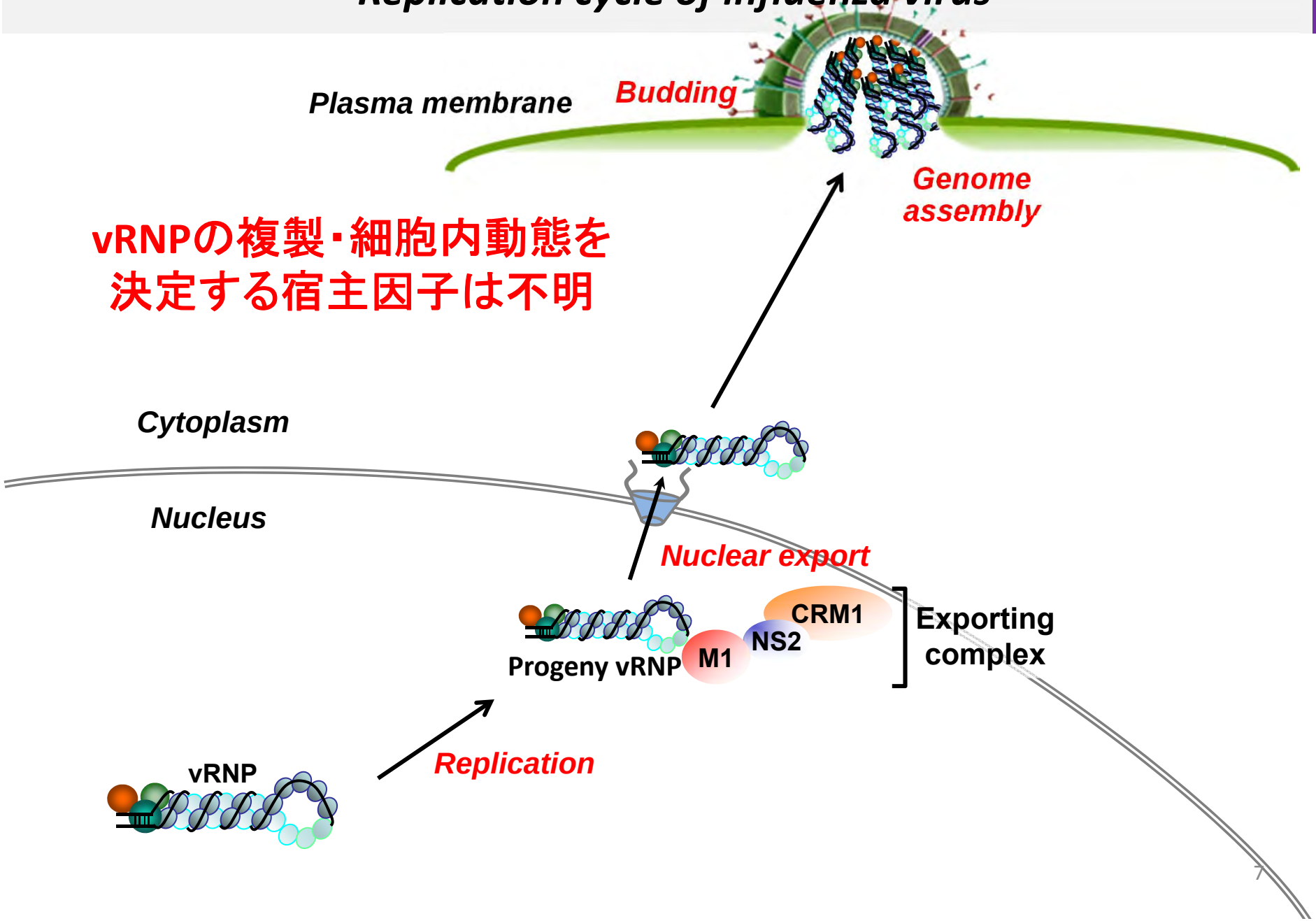
宿主因子によって制御される インフルエンザウイルスゲノムの細胞内動態

川口　敦史
筑波大　医学医療系　感染生物学分野

The structure of influenza viruses

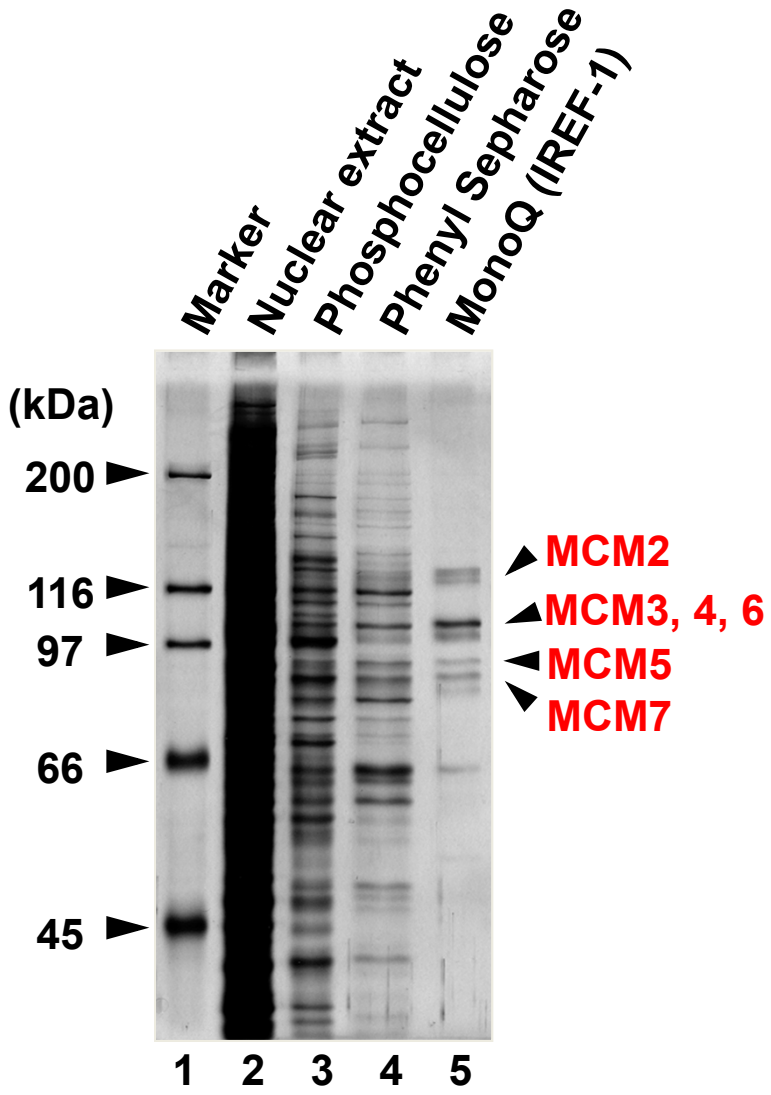


Replication cycle of influenza virus

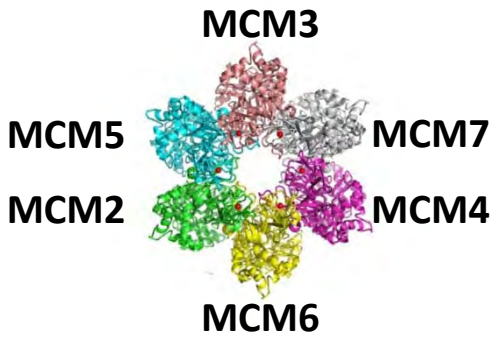


Reconstitution of in vitro genome replication system

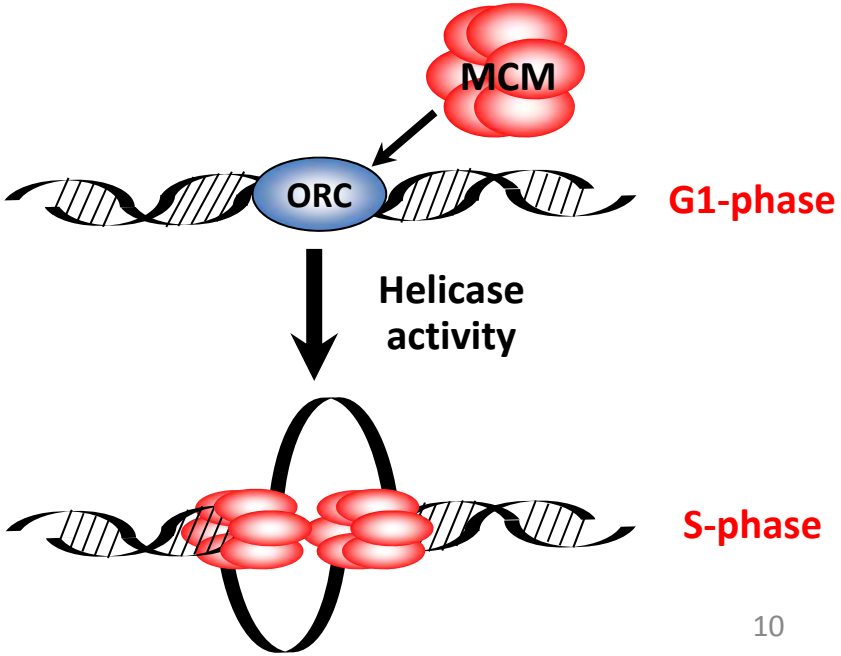
A. SDS-PAGE of IREF-1



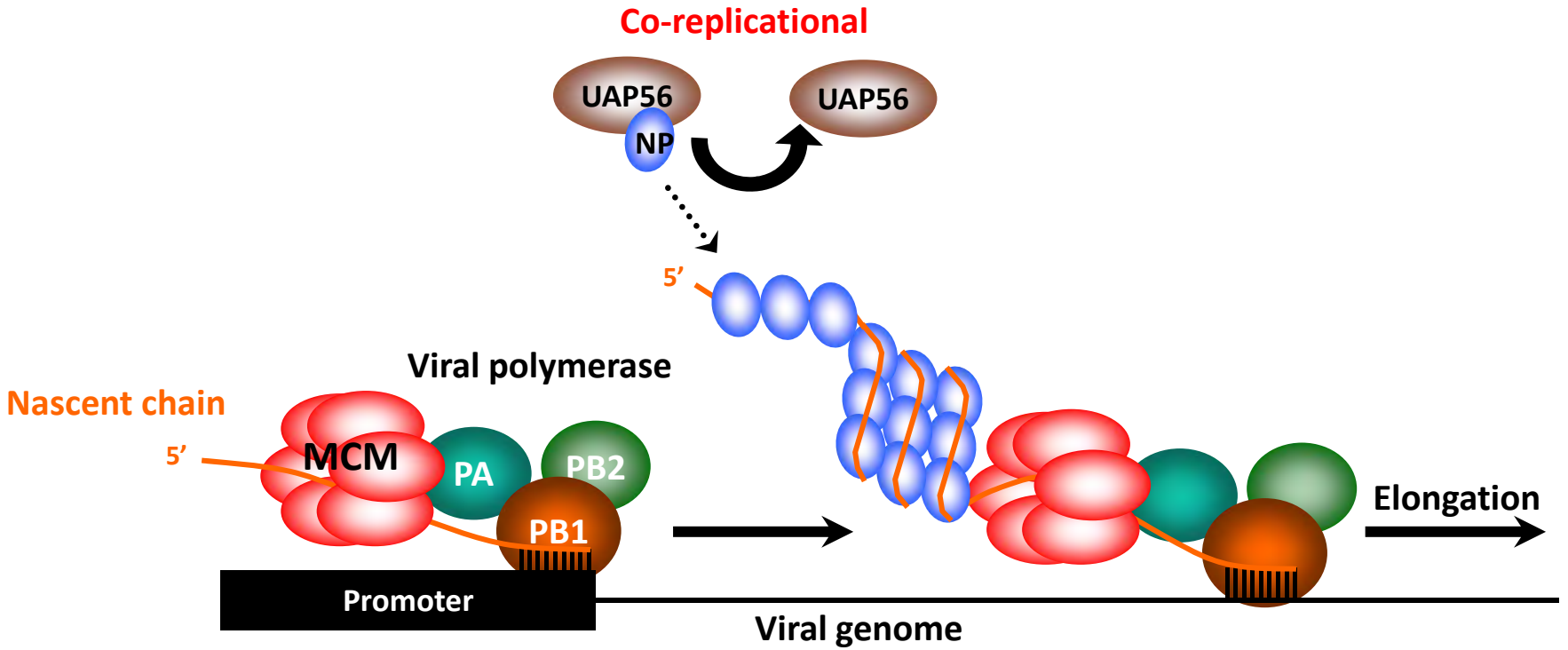
B. The structure of MCM complex



C. MCM functions as a DNA replicative helicase

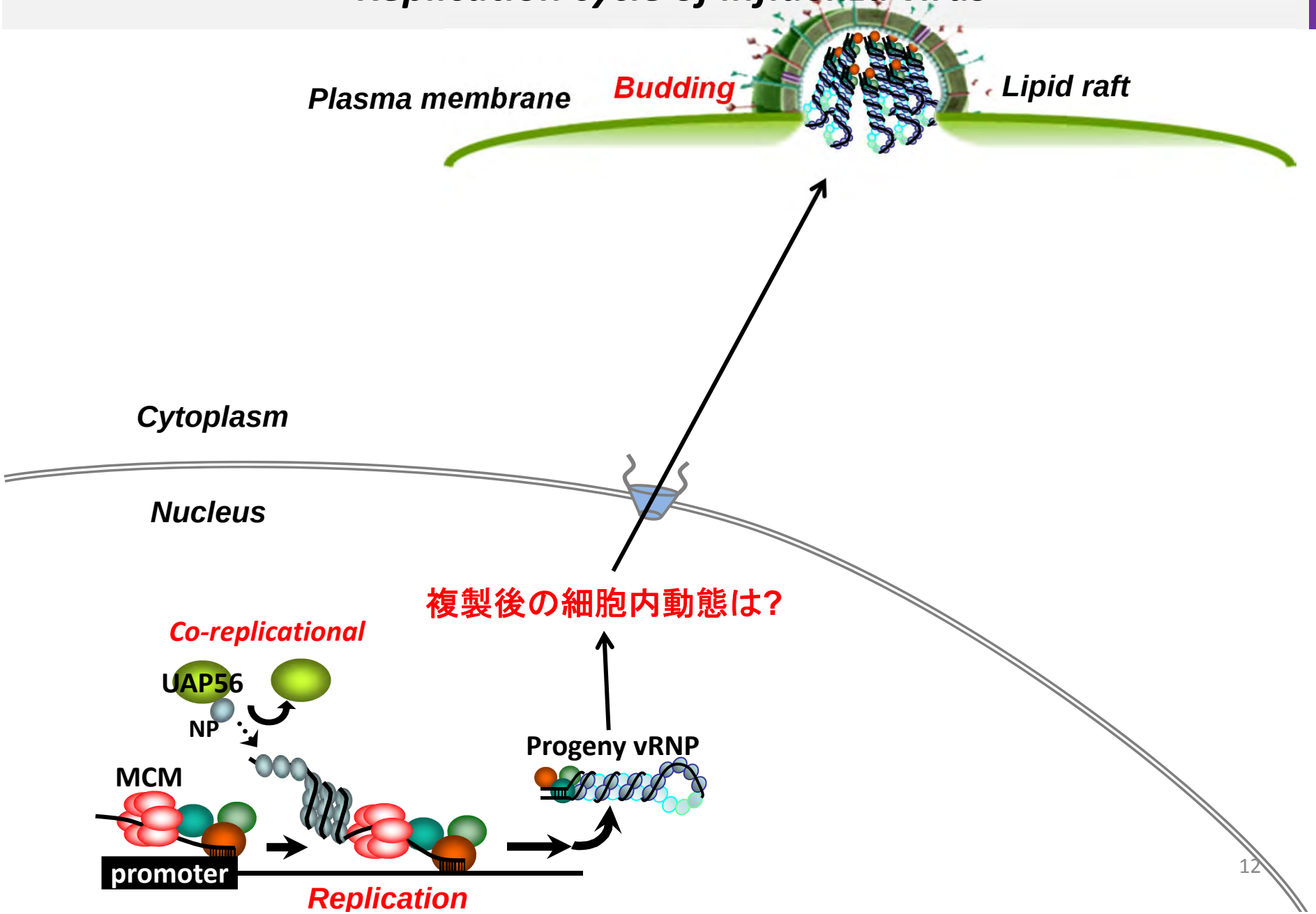


Working hypothesis

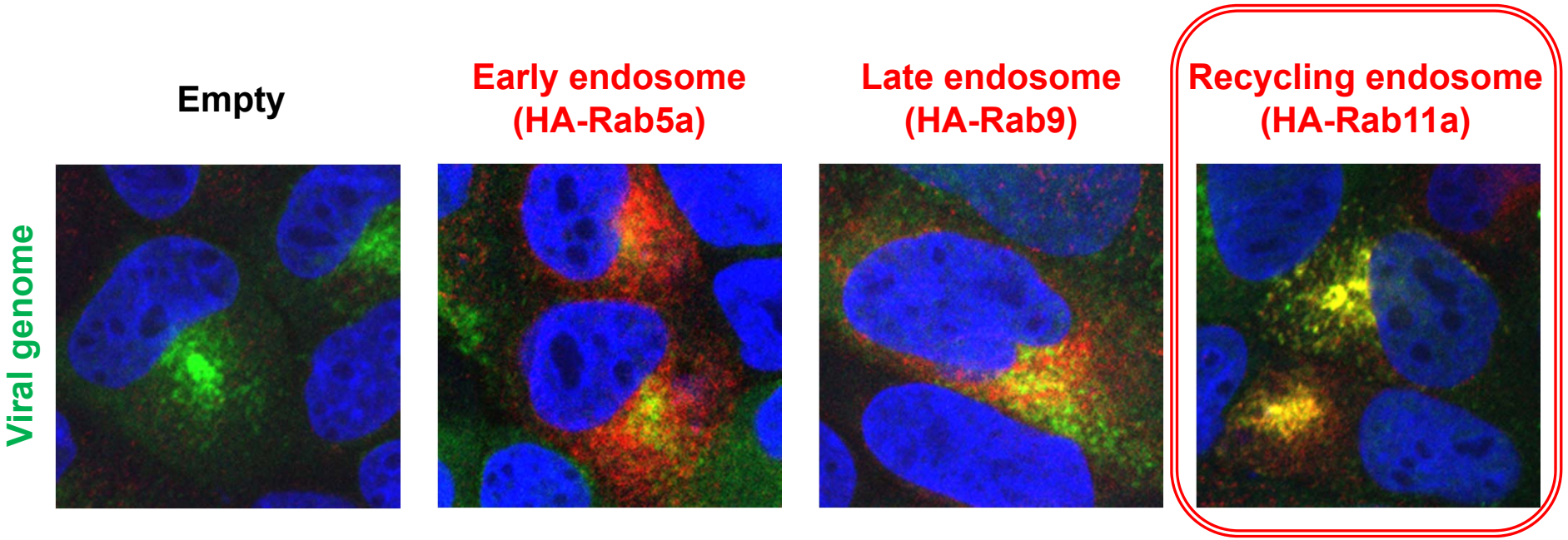


Collaboration w/ Dr. Momose (Kitasato Univ.)

Replication cycle of influenza virus

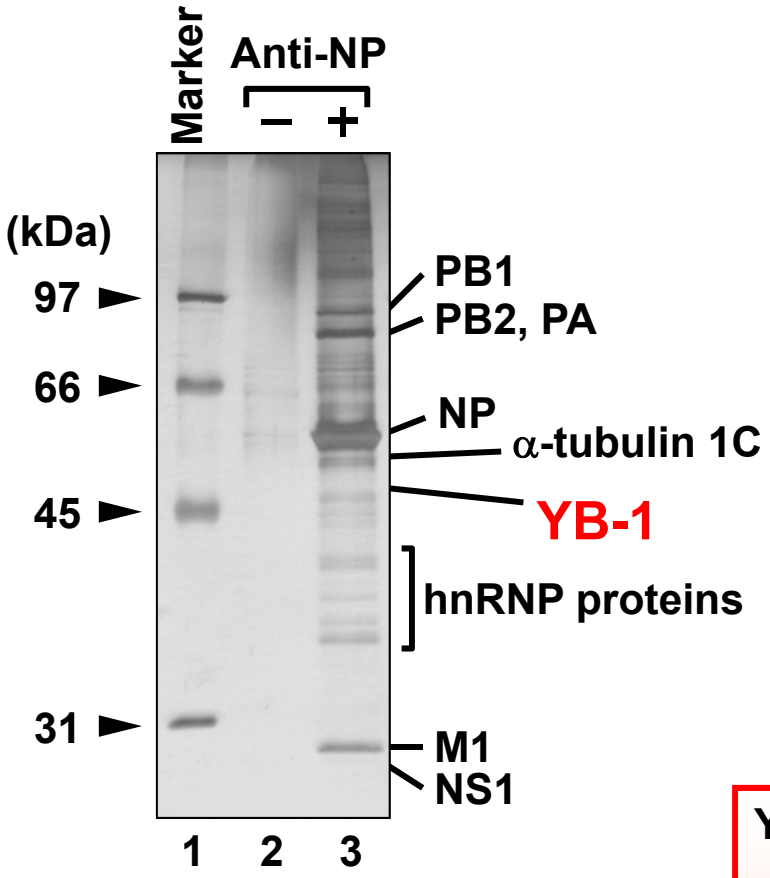


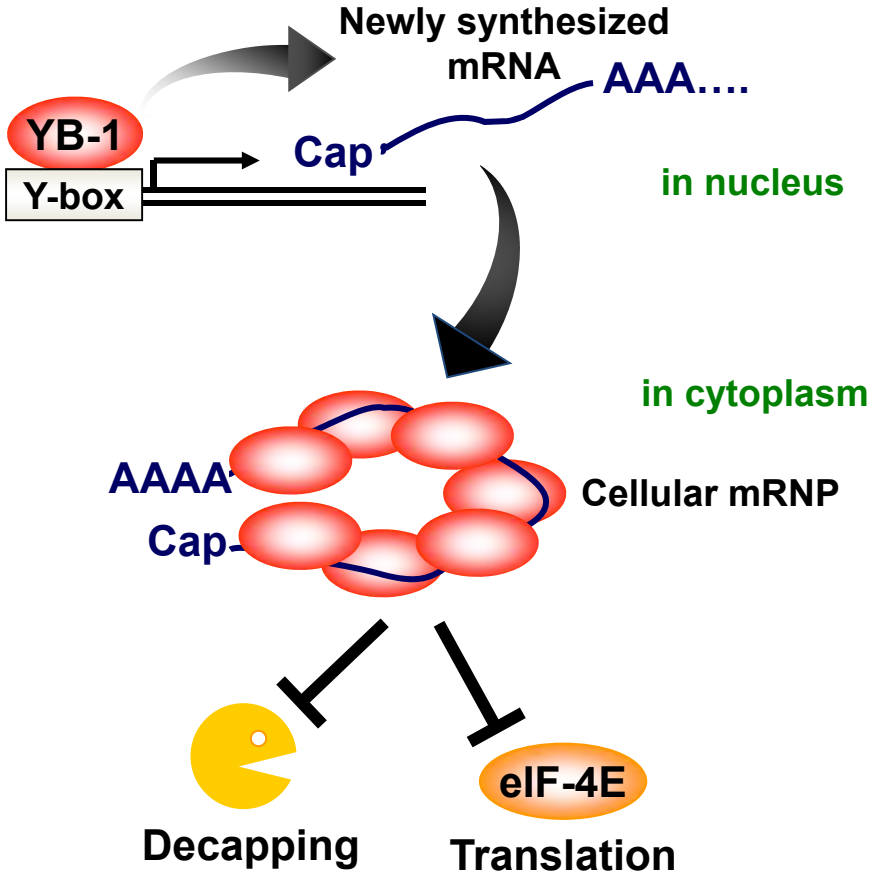
Viral genome accumulates in the Rab11-positive recycling endosomes



vRNP accumulates in the Rab11-positive recycling endosomes.

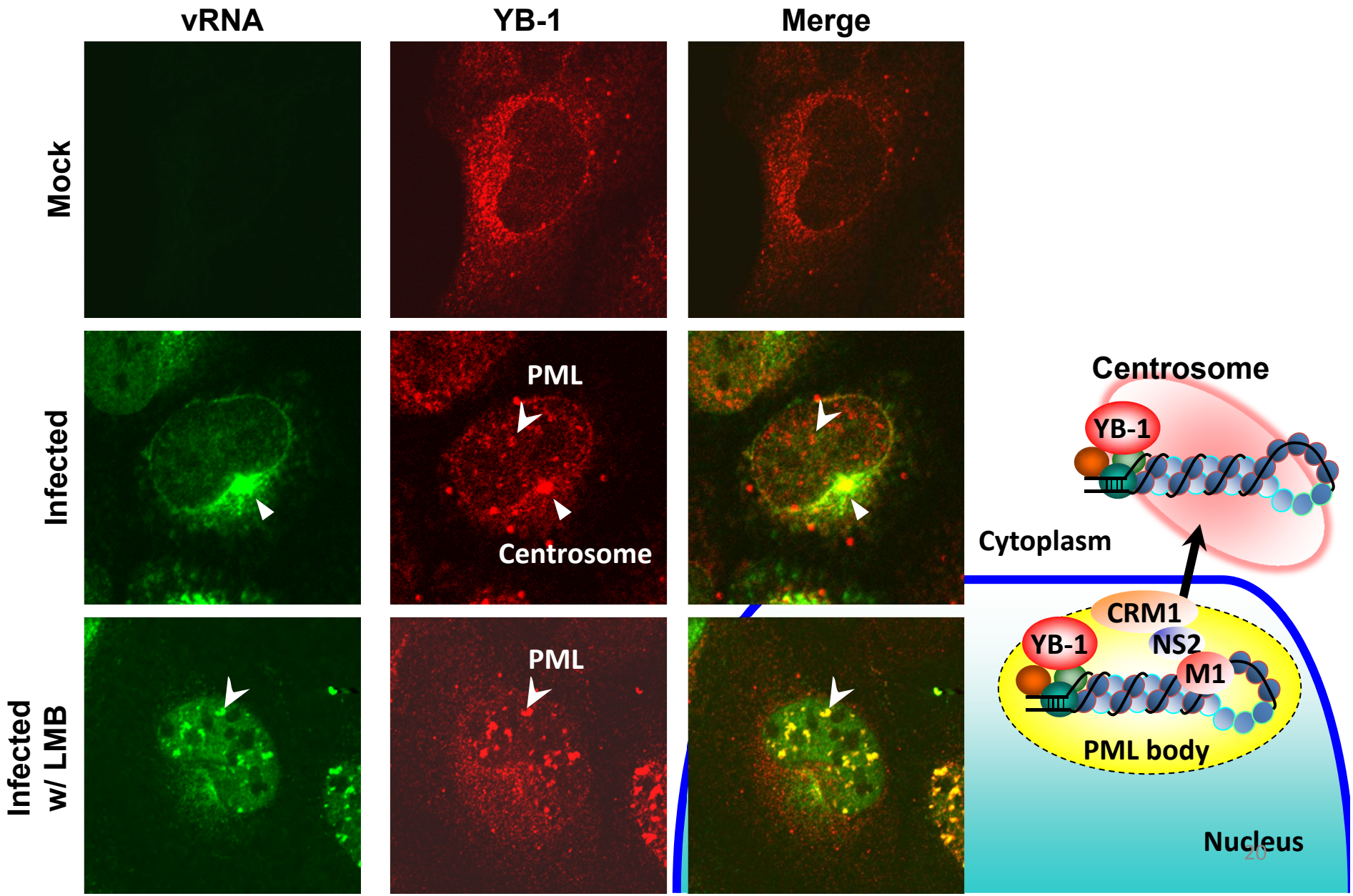
Identification of cellular proteins interacting with vRNP by LC-MS analysis



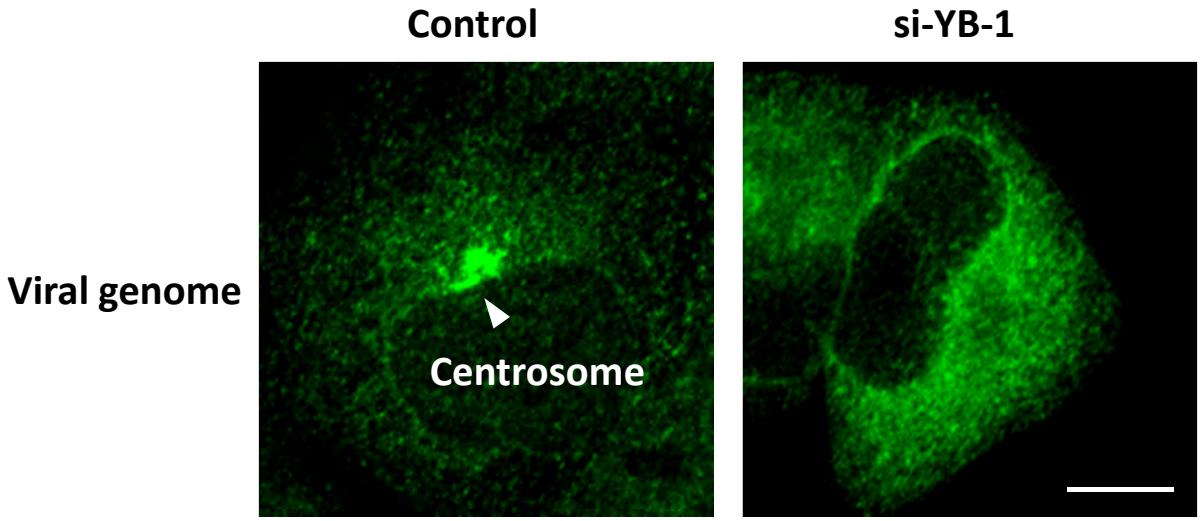


YB-1 (Y-box binding protein-1)
- — is a DNA/RNA binding protein.
- — functions as a transcription factor.
- — is a major component of cellular mRNP.
- — regulates translation and mRNA stability.

Intracellular localization of YB-1 in infected cells

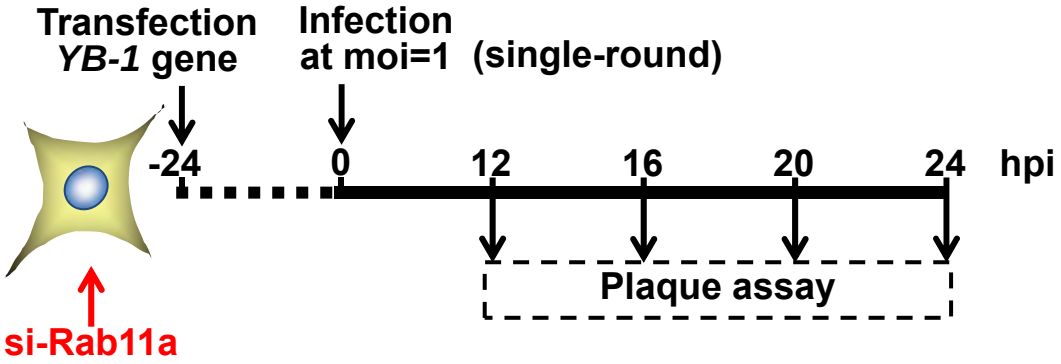


Intracellular localization of the virus genome in YB-1 knockdown cells

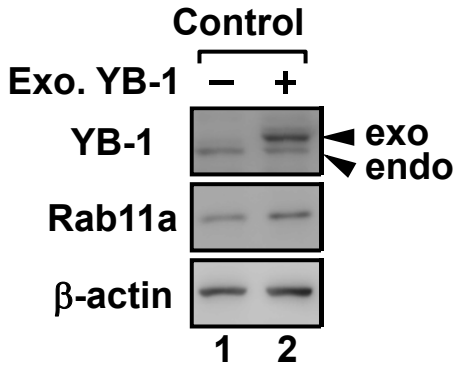


Progeny vRNP is exported to the cytoplasm,
but does not accumulate around centrosome in YB-1 KD cells.

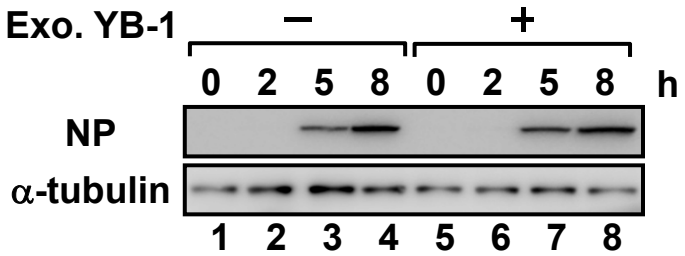
Production of progeny virions is stimulated by overexpression of YB-1 in Rab11a-dependent manner



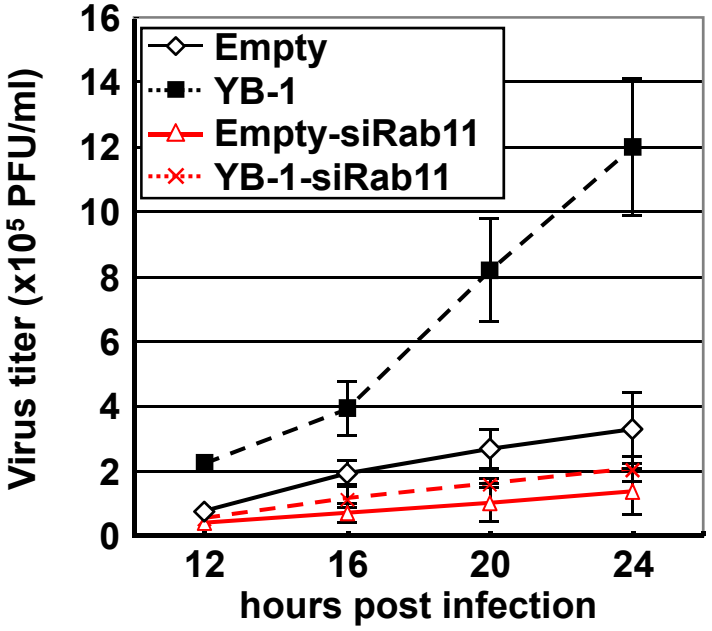
A Expression level of YB-1 and Rab11a



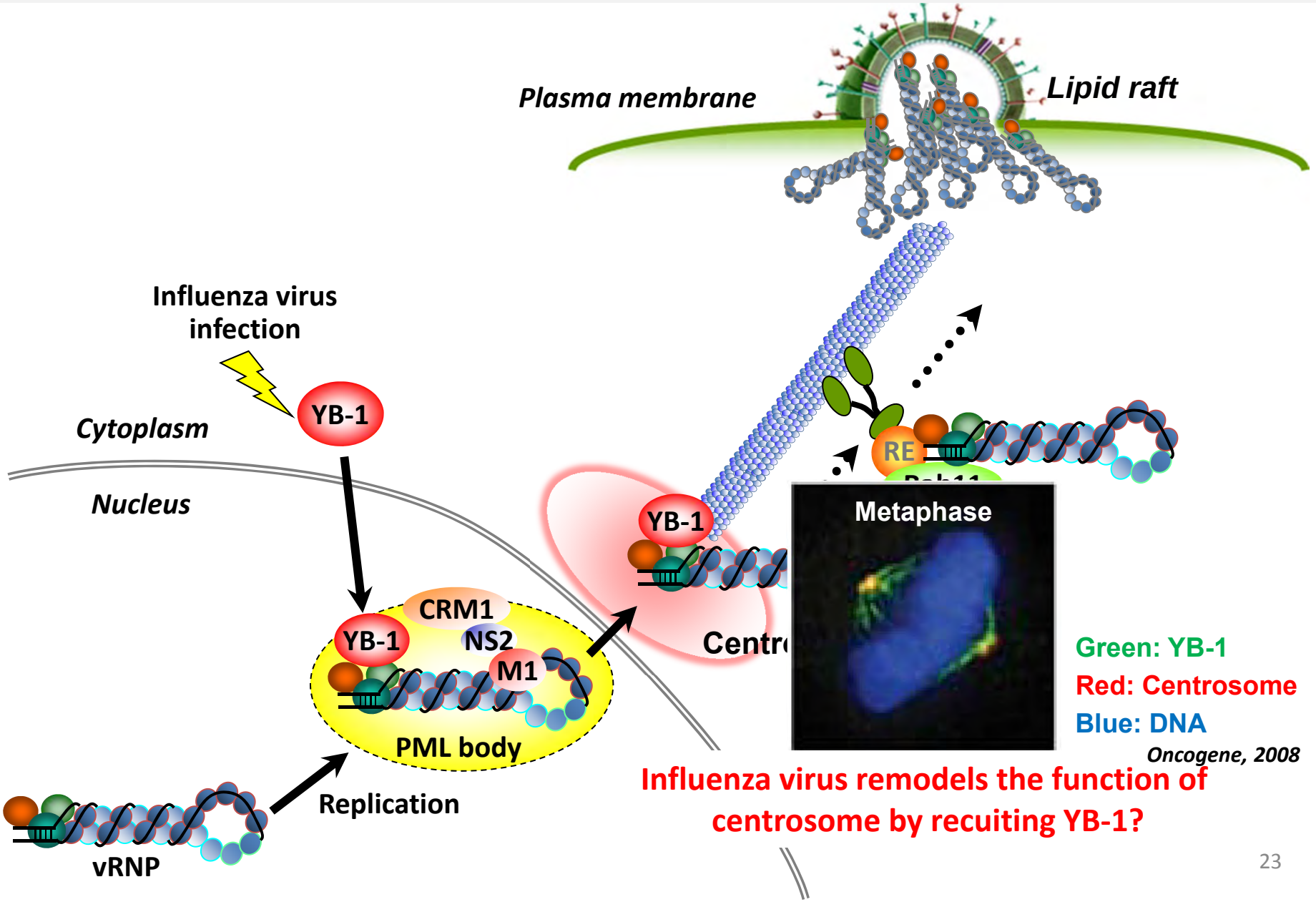
B Expression level of viral protein



C The amount of progeny virions



A proposed model



Influenza virus remodels the function of centrosome by recuiting YB-1?