



Size properties of the SUMO-VP6 assembly have been studied by means of Dynamic Light Scattering (DLS) and compared to Small angle X Ray Scattering (SAXS) data acquired at ESRF. SUMO-VP6 at pH 7.4 in Tris-HCl Buffer has a  $R_H$  of 7.8 nm as is visible from the  $P(n)$  distribution in Fig.1A. The protein has a narrow size distribution indicating a high monodispersity. SAXS has been performed to retrieve radius of gyration ( $R_G$ ) and Pair distribution function  $P(R)$  of the protein. The  $P(R)$  distribution is bell-shaped indicating a compact globular structure with a  $R_G$  of 7.9 nm, consistent with value obtained with DLS (Fig.1B). This value has been confirmed also with Guinier analysis. The theoretical  $R_H$  value from the 3D structure is 3.3 nm, much smaller than the experimental  $R_H$  of 7.9 nm, hence we can conclude that several subunits self-assemble to form a single carrier. We are currently analyzing tridimensional properties of the assembly with DAMMIN software.

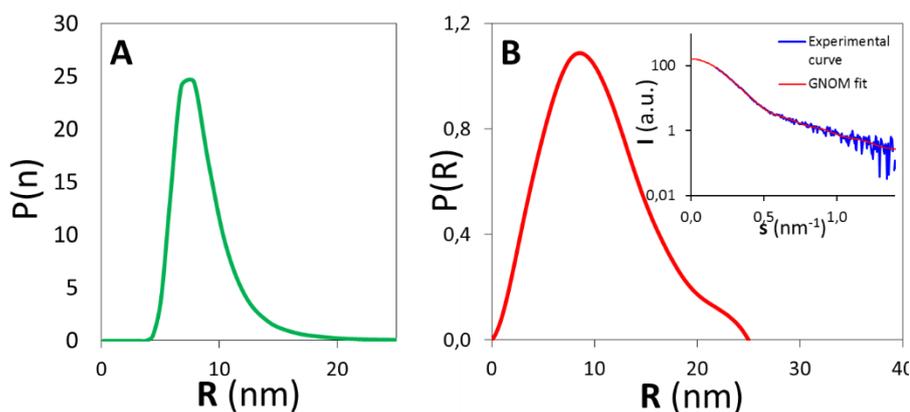


Figure 1 (A)  $P(n)$  distribution of VP6-Sumo oligomer obtained with DLS (B)  $P(r)$  distribution of VP6-Sumo oligomer from SAXS measurement. A representative SAXS curve is shown in the inset in blue. The fit performed by GNOM is in red in the inset.

We tested the uptake of the carriers on Colon Cancer Cells and analyzed the localization after endocytosis of the carriers in a recent paper [6].

The data on this report are still preliminary and we are analyzing the behaviour of VP6-SUMO assemblies in different pH and ionic strength conditions.

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