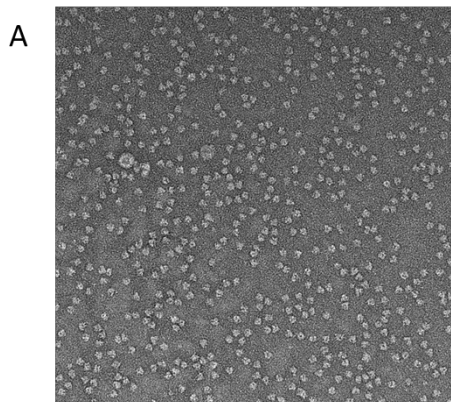


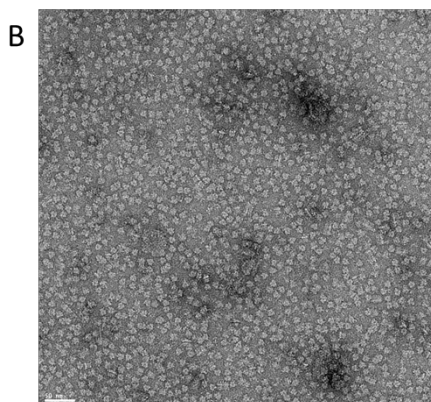
Native Cell Membrane Nanoparticles System for Membrane Protein Structural Biology

Youzhong Guo



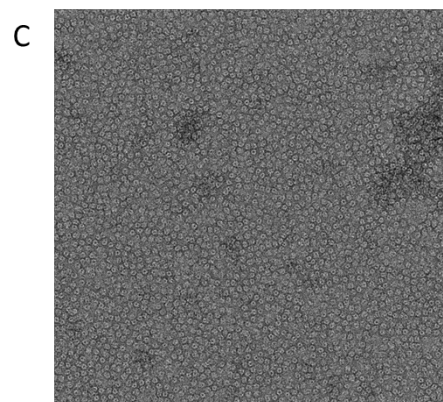
A: Negative stain image # 1035

Lower molecular weight SMA copolymer NCMNP-C-1-7 (MW is about 3kDa)
We need to confirm if this polymer can still retain the intact structure of the lipid bilayer patch with AcrB. (NS image # 1035)



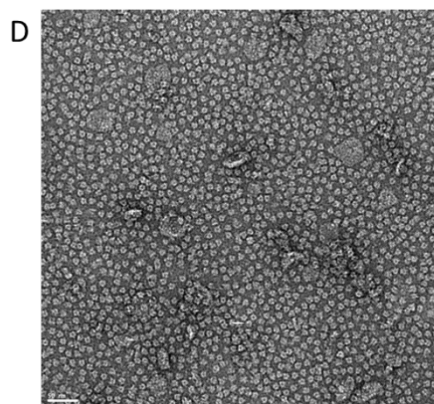
B: Negative stain image #846

DIBMA-1B is a unique polymer based on DIBMA structure backbone, but compatible with both divalent ions and broad pH conditions. We need to confirm if it can be included in our NCMN polymer library using single particle cryo-EM analysis.



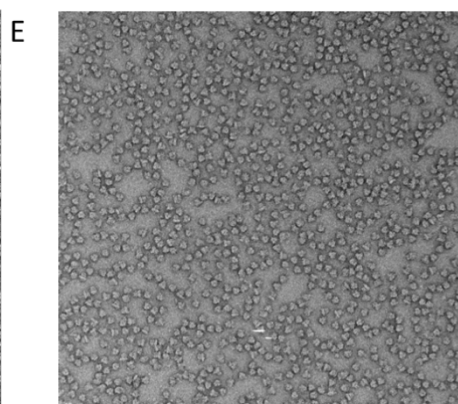
C: Negative stain image #971

MscS has very flexible transmembrane domain, we used it for screen NCMN polymers that can stabilize the MscS. We found DIBMA-1B work well in purify MscS in homogenous particles. We need to confirm if this polymer can produce high-resolution structure of the transmembrane domain single particle cryo-EM analysis.



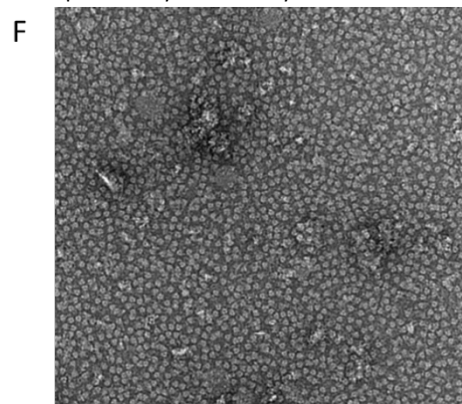
D: Negative stain image # 680

NCMNP15-b is a unique polymer with very good compatibility with divalent ion and broad pH conditions. It produces homogenous single particles of AcrB, but with some large lipid bilayer patches, we think this polymer may retains more ordered lipids than SMA2000 copolymers. We need to confirm this with single particles cryo-EM analysis.



E: Negative stain image # 730

NCMNP15-C is based on NCMN15-b but with a more rigid polymer structure. It also has very good compatibility with divalent ion and broad pH conditions. It produces homogenous single particles of AcrB, but no large lipid bilayer patches and it has higher extraction efficiency than NCMNP15-C. We need to confirm this polymer can be indexed in our NCMN polymer library with single particles cryo-EM analysis.



F: Negative stain image # 682

NCMNP16-b is also based on NCMN15-b but with a much less overall negative charge. It has very good compatibility with divalent ion However a narrow pH conditions compared with NCMNP15-b. It produces homogenous single particles of AcrB. We need to confirm this polymer can be indexed in our NCMN polymer library with single particles cryo-EM analysis.