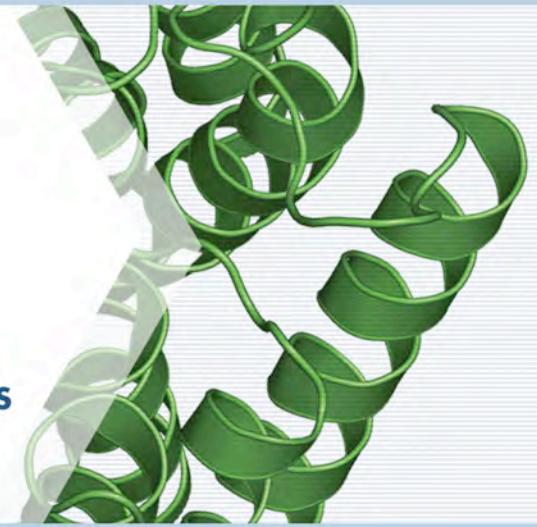




**CENTER FOR STRUCTURES OF MEMBRANE PROTEINS**

Salk Institute, UCSF, Advanced Light Source, UCLA, & UCD



## Mystic Mystic and Misticated IMPs

Inno Maslennikov, Hay Dvir, Matt Lundberg, [Senyon Choe](#) - *Mistic structures, and human targets*

Chris Dickson, Casey Johnson, Roia Katebian, Inno Maslennikov, [Witek Kwiatkowski](#) - *HT Scale-up for production, and analysis*

Luis Esquivies, Mizuki Okamura, [Georgia Kefala](#) - *Bacterial kinase receptors*



# Mistic: Membrane-Integrating Sequence for Translating IMP Constructs

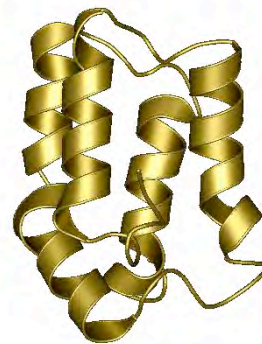
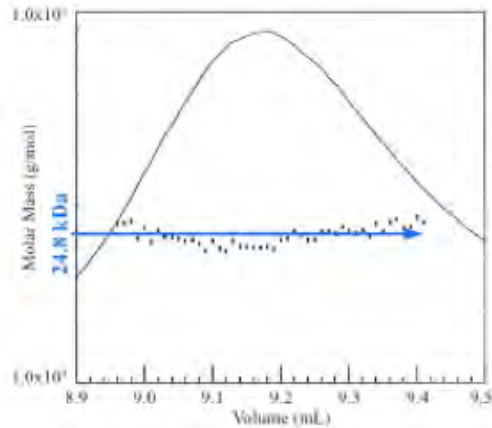
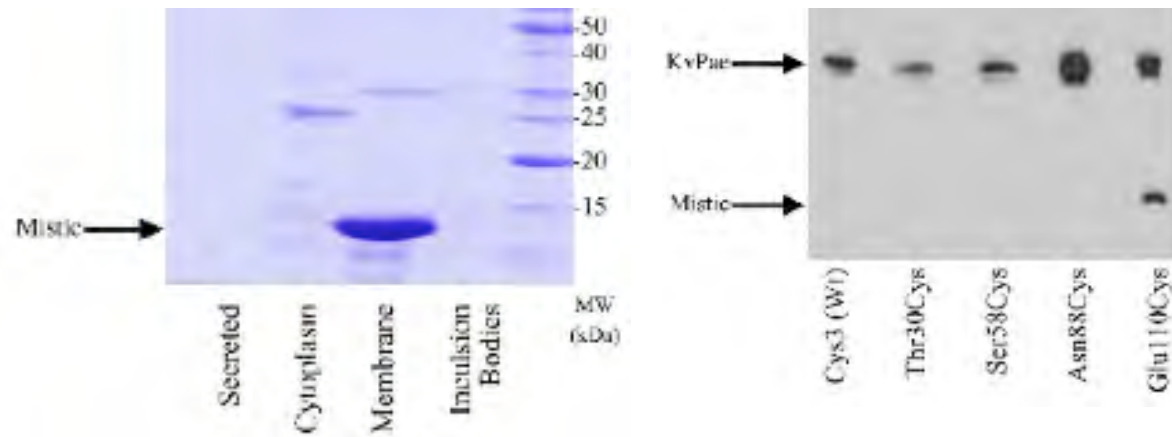
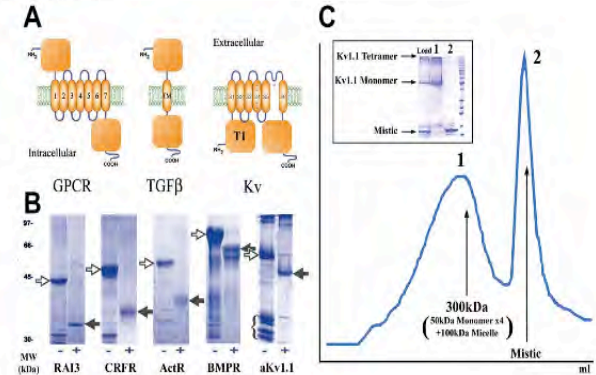
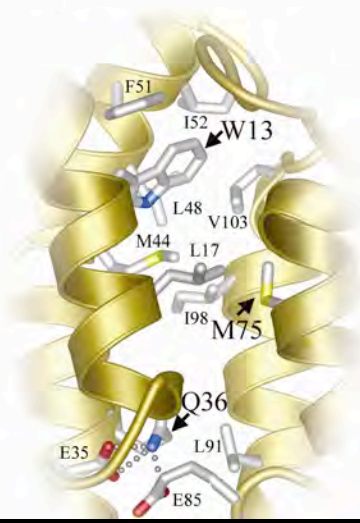
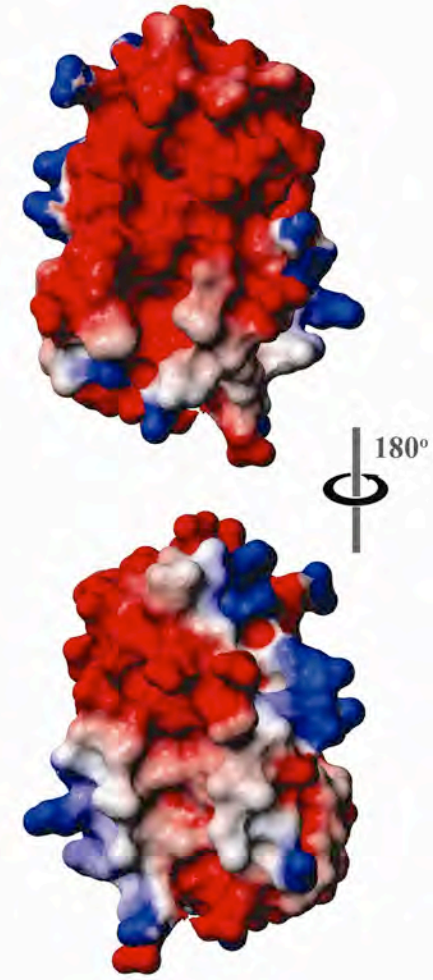
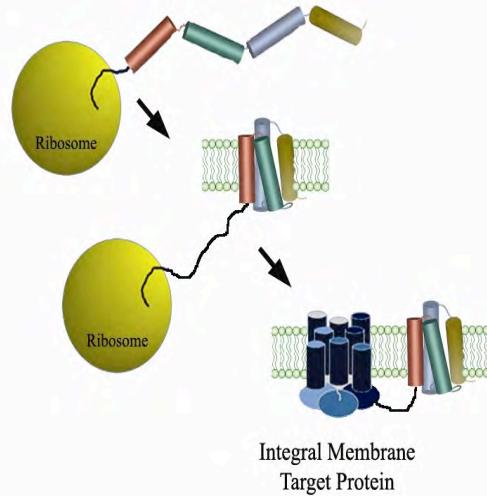
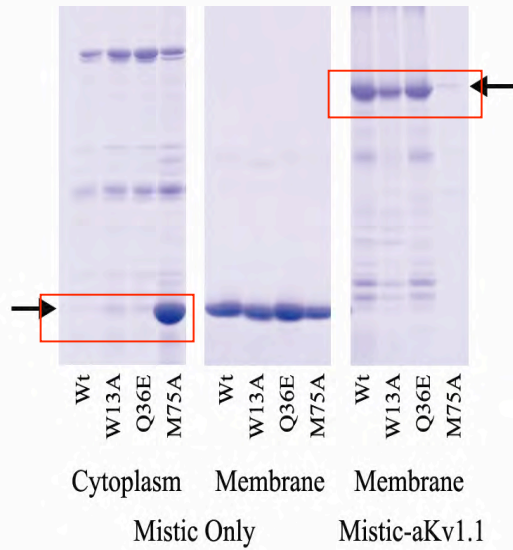


Figure 5.





# Action mechanism of membrane integration by *Mistic* involves the folded structure.



**Viral fusogenic peptide E5 for membrane thinning,**  
**Similar to Influenza hemagglutinin**  
**A fusion peptide of ~20 a.a.**  
**GLFEA IAEFI EGGWE GLIEG**  
*R. Efremov, Biochemistry, 2005*



**Progresses on:**

**1. Mistic homologs and structures**

**2. Membrane expression of Misticated IMPs**

**3. Mistic Biology in *Bacillus***



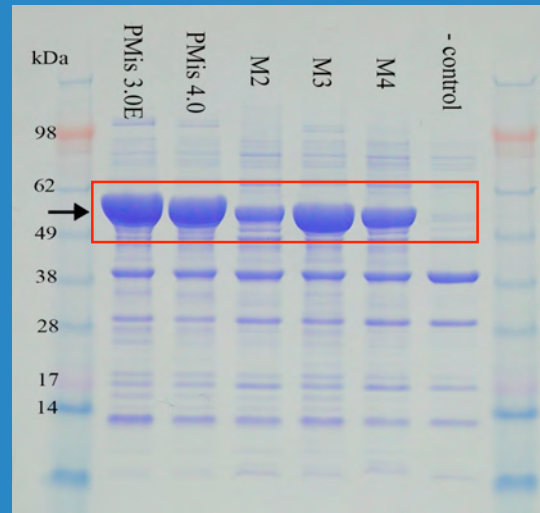
# 1. Mystic homologs and structures



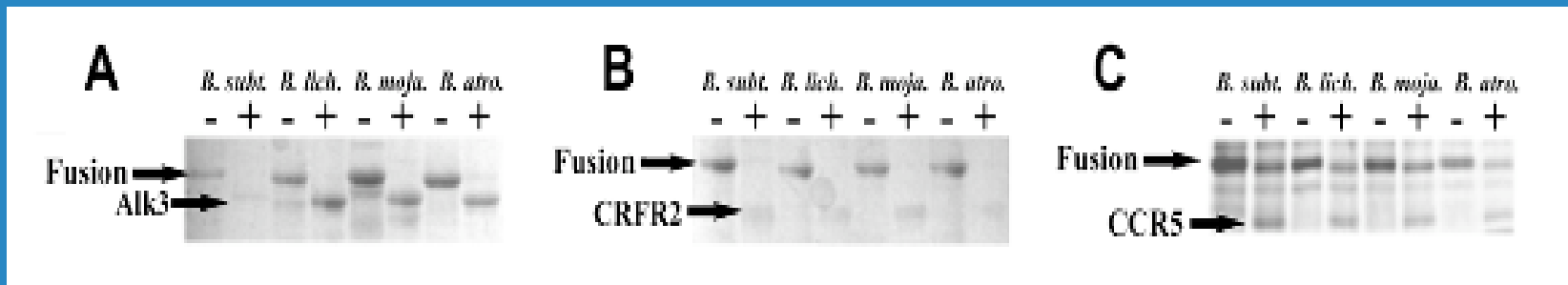


## Comparison of Mystic Homologs for Expression

Isolated Crude membrane: EnvZ



Coomassie-stained SDS gel: hALK3, hCRFR2, hCCR5



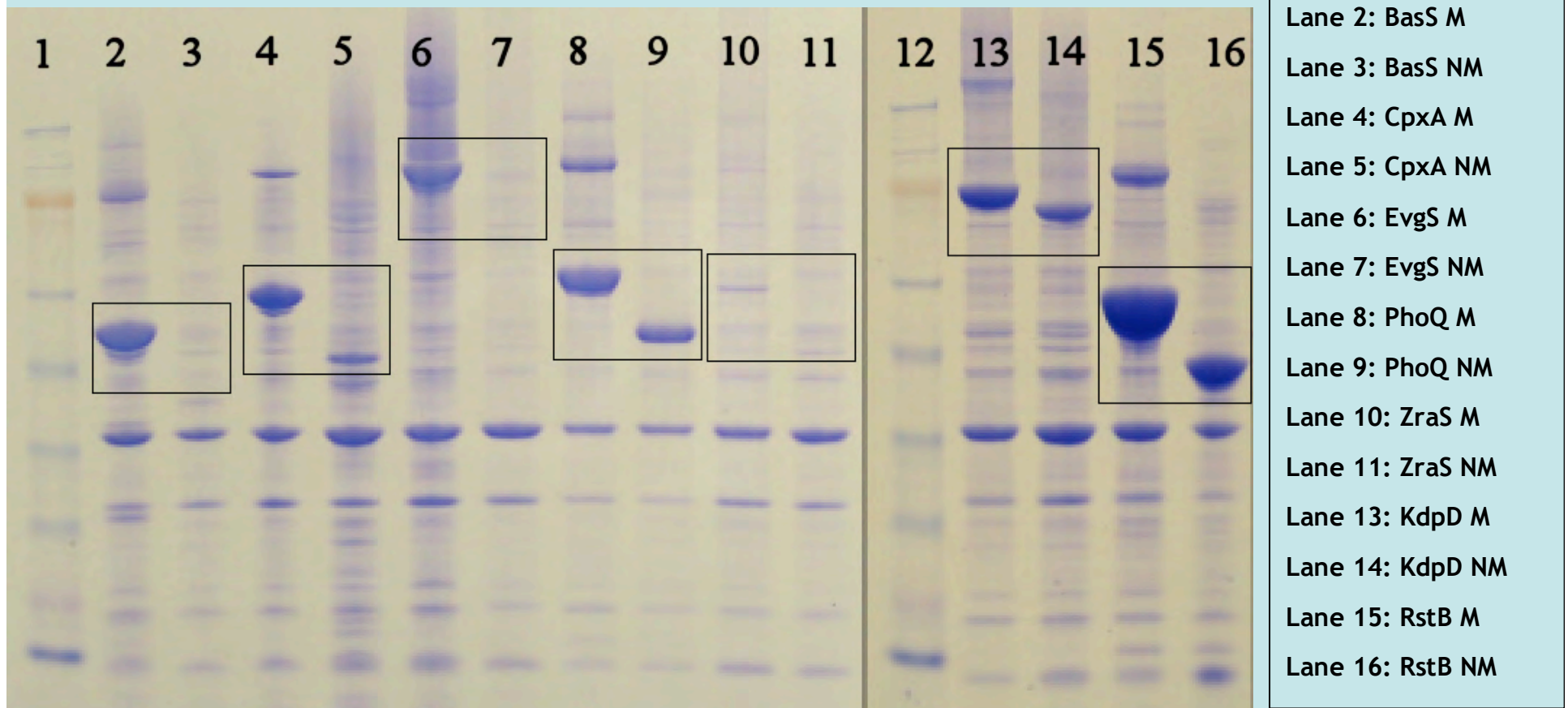


## 2. Membrane expression of Misticated IMPs





## Membrane expression of Misticated vs. Non-Misticated HRK proteins



*Kefala, Kwiatkowski, Esquivies, Choe (2007) J. Struc. Func. Genomics, in press*