

Article 1: questions

Peter I. Kuzmin, et al. *A quantitative model for membrane fusion based on low-energy intermediates*. Proceedings of the National Academy of Sciences (2000)

Question 1:

What determines the equilibrium distance between the tips of fusing locally protruded membranes?

Answer 1:

The equilibrium distance between the nipples is determined from a balance between the hydration force and the force generated by the fusion proteins that draws the membranes together.

Question 2:

How can a stalk be formed? Describe the different steps

Answer 2:

The free energy increases as the tips of the nipples approach each other and, as a result, hydrophobic patches then form. Eventually, the distance between the tips of the nipples decreases to the point at which patches become large enough to cause the hydrophobic attraction to dominate and the cis monolayers merge.

Question 3:

Compare the free energy of a fusion to that of an extended hemifusion

Answer 3:

The free energy of a fusion pore is much lower, and therefore the evolution of a stalk into a pore should proceed without the creation of an extended diaphragm.