

# Towards the emergence of modern cells

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The complexity of modern biochemistry suggests that a systems chemistry approach is required to understand and potentially recapitulate the intricate network of prebiotic reactions that led to the emergence of life.

Early cells probably relied upon interconnected chemistries to link RNA, peptides and membranes. In this context, it is critical to understand:

1. what, how and when stable membranes appeared on early Earth;
2. whether primitive membranes could be compatible with prebiotic chemistries;
3. what biophysical or biochemical mechanisms could enable primitive cell cycles to retain continuity of function.

Addressing all these points can help us to elucidate the prebiotic pathways that led to the emergence of functional primitive cells and, from there, the arise of life as we know it.