

Experimental model of genesis of protobionts.

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Due to the urgency of the issue of self-organization of the conditions and mechanisms of the structure formation of protobionts, a new model of prebiological events is proposed for consideration. The main role in this model is assigned to the conditions and place of the formation of a previously unknown new type of energy source. The advantage of this type of energy source is its versatility and local place of action. As a result of his work, polypeptide microspheres could appear in large quantities from the primary organic broth. Cycling thermobaric mode of operation of the source, creating a multiphase bubbly environment, is able to actively and permanently carry out forced metabolism in the microspheres. This is possible due to the energy of the sea surf, which can generate both pneumatic and hydraulic impact in closed cells of abrasive shores. Instantaneous and briefly arising temperature in the dissolved gas bubbles, under pressure, jumps to hundreds of degrees. At the same time, on the hot boundary of gas bubbles from the primary organic broth, polypeptides coagulate, with the formation of a large number of microspheres. Each of the large number of cells of the abrasive shores can individually perform the function of a peculiar incubator of polypeptide microspheres. Consecutive blows of the sea waves constantly keep the multiphase bubbly environment in cells in an active state, causing the microspheres to pulsate, forcing them to metabolize. The cells of the stone abrasive banks are shielded from hard cosmic radiation, and in its shadow the destruction of high-molecular structures is significantly lower. In this shadow stage of abiogenesis, the probability of the structural formation of protobionts is higher than in open reservoirs of the oxygen-free atmosphere of the early Earth. Such a natural self-organization of the place, which is the cause of the structural formation of protobionts, would allow, besides everything, not only to generate polypeptide microspheres for a long time, but also to carry out the polycondensation of amino acids and nucleotides from short-term and point-like jumps in temperature and pressure. Long-term observations of pulsating microspheres show that over time they undergo changes in size, shape and internal content. You can see the breaking (destruction), the emergence of new and adhesion of individual microspheres. As a result, the real possibility of the occurrence of such events in the early Earth was confirmed experimentally.