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PDF文档

金属离子对模拟脂筏结构和稳定性影响的LB膜和原子力显微镜研究

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目的在于研究钠、钾、钙、镁这几种金属离子对模拟脂筏表面形貌结构和稳定性的影响。钠、钾、钙、镁离子在生物体中普遍存在，在生物体的各种生理活动中起着重要的作用。用LB膜技术在一定温度下测量脂筏成分在不同亚相上的表面压与平均分子面积（π-A）等温线，分析其热力学性质；并且用原子力显微镜（AFM）对其表面形貌进行观察。实验表明金属离子对脂筏的形成、尺度和表面形貌都有影响。

The Effect of Metal Ions on the Structure and Stability of Simulating Lipid Rafts by LB Films and AFM

The purpose of this study is to observe the effects of metal ions, Na+, K+, Ca2+ and Mg2+ on the structure and stability of simulating lipid rafts. The metal ions are ubiquity in organisms and play key roles in them. In this study, The π-A isotherms of lipid rafts on different sub-phases were measured using the technique of Langmuir-Blodgett (LB) films, and their energetics propertics were also analyzed. The surface structures were presented by atomic force microscope (AFM). Experiments showed the effect of metal ions on the shape, size and surface structure of lipid rafts.

关键词

脂筏(Lipid raft); LB膜(LB films); π-A曲线(π-A isotherm); 原子力显微镜(Atomic force microscope)