

Native membrane patches containing Na⁺, K⁺-ATPase studied by AFMLing Zhu,^{1,2} Ilya Reviakine^{1,2}¹ CIC biomaGUNE, Paseo Miramon 182, San Sebastian, 20009, Spain² Department of Biochemistry and Molecular Biology, University of the Basque Country, 48940 Leioa, Spain.

Sodium potassium ATPase is a transmembrane protein existing in all animal cells. It utilizes energy from ATP hydrolysis to transport Na⁺ and K⁺ across the cell membrane against their electrochemical gradients and thus maintain the resting potential. This transport process is accomplished by cyclic conformational changes of this protein. Atomic force microscopy (AFM), which does not require crystallization of the sample, can be used to image membrane proteins in native membranes at room temperature and in aqueous solutions, and can thus allow the detection of the functional conformational changes of the proteins. Thus we aim to investigate the conformational changes in the Na⁺, K⁺-ATPase in native membranes using AFM.