

*УДК 577.37***FLUORESCENCE QUENCHING IN PROTEIN-LIPID SYSTEMS: CONTRIBUTION OF DIFFUSION-CONTROLLED FACTORS****Ye.A. Domanov, G.P. Gorbenko, O.V. Gamolina***V.N.Karazin Kharkiv National University, 4 Svobody Sq., Kharkiv, 61077*

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Using the model of diffusion-controlled reactions between asymmetric species the quenching of the protein fluorescence by extrinsic quenchers has been considered. The changes in bimolecular quenching rate constant stemming from the protein immobilization on the surface of lipid vesicles have been evaluated. It has been shown that association of the proteins whose radius is less than 2 nm with lipid vesicles can be followed by the apparent decrease of the quenching efficiency due to reduced translational and rotational diffusion coefficients of the bound protein.

KEY WORDS: quenching of protein fluorescence, diffusion of lipid-bound protein, quenching rate constant