



The effect of polyethylene glycol on some properties of the erythrocyte membrane.

Autorzy

M. Danieluk

H. Hgerstrand

Adam Jezierski

Julia Jezierska

Aleksander F. Sikorski

Rok wydania

1998

Czasopismo

Cellular and Molecular
Biology Letters

Numer woluminu

3

Strony

133-143

Kolekcja

Naukowa

Język

Angielski

Typ publikacji

Artykuł

Streszczenie

Polyethylene glycol (PEG) induces fusion of cells creating fused cell pairs and larger cell aggregates. However the precise mechanism of its action on cell membranes remains unclear. In the present study we attempted to determine how PEG interacts with the membrane of red blood cell. It is known that PEG, at concentrations that induce cell fusion, causes strong swelling of erythrocytes which appeared to be insensitive to elevated ionic strength of the solution. This swelling, as well as fusion rate, is independent of the initial shape of erythrocytes induced by various amphiphiles. PEG at the concentrations usually used as a fusogen induced haemolysis (up to 50%). Again, this effect was not inhibited by elevated ionic strength of the buffer. Further experiments revealed that PEG changes membrane properties such as surface pressure of lipid monolayers prepared from total erythrocyte lipids and mobility of acyl hydrocarbon chains of membrane lipids as measured using 5-doxyl stearate as a spin probe.

Słowa kluczowe

erythrocyte morphology, cell membrane, erythrocyte membrane, cell fusion, cell aggregate, membrane, polyethylene glycol, hemolysis

Strona internetowa wydawcy

<http://link.springer.com>