

# The Anticancer Drug Cytarabine Does not Interact with the Human Erythrocyte Membrane

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Cytarabine, an analog of deoxycytidine, is an important agent in the treatment of ovarian carcinoma, acute myeloid and lymphoblastic leukemia. Its mechanism of action has been attributed to an interference with DNA replication. The plasma membrane has received increasing attention as a possible target of antitumor drugs, where the drugs may act as growth factor antagonists and receptor blockers, interfere with mitogenic signal transduction or exert direct cytotoxic effects. Furthermore, it has been reported that drugs that exert their antiproliferative effect by interacting with DNA generally cause structural and functional membrane alterations which may be essential for growth inhibition by these agents. This paper describes the studies undertaken to determine the structural effects induced by cytarabine to cell membranes. The results showed that cytarabine, at a concentration about one thousand times higher than that found in plasma when it is therapeutically administered, did not induce significant structural perturbation in any of these systems. Therefore, it can be unambiguously concluded that this widely used anticancer drug does not interact at all with erythrocyte membranes.

*Key words:* Cytarabine, Erythrocyte Membrane, Phospholipid Bilayer