

First International Conference on Red Blood Cell Carriers
at the Rockefeller Foundation Bellagio Study and
Conference Center, Bellagio (Italy), February 27–March 2, 1984

Red Blood Cells as Carriers for Drugs

A Method for Disseminating Chemothera-
peutics, Hormones, Enzymes and Other
Therapeutic Agents via the Circulatory System

Volume Editors

J. R. DeLoach, Kerrville, Tex.;

U. Sprandel, Munich

30 figures and 21 tables, 1985



See 351

 **KARGER**

S. Karger · Basel · München · Paris · London · New York · Tokyo · Sydney

Contents

Preface	VII
<i>DeLoach, J. R.</i> (Kerrville, Tex.): Hypotonic Dialysis Encapsulation in Erythrocytes of Mammalian Species	1
<i>Sprandel, U.</i> (Munich): Erythrocytes as Carrier for Therapeutic Enzymes – an Approach towards Enzyme Therapy of Inborn Errors of Metabolism	7
<i>Chalmers, R. A.</i> (Harrow): Comparison and Potential of Hypo-Osmotic and Iso-Osmotic Erythrocyte Ghosts and Carrier Erythrocytes as Drug and Enzyme Carriers	15
<i>Green, R.</i> (Cleveland, Ohio): Red Cell Ghost-Entrapped Deferoxamine as a Model Clinical Targeted Delivery System for Iron Chelators and Other Compounds	25
<i>DeLoach, J. R.</i> (Kerrville, Tex.): Encapsulation and Pharmacokinetics of Drugs in Bovine and Canine Carrier Erythrocytes	36
<i>Lynch, W. E.; Sartiano, G. P.; Rosenblum, S. L.; Calkins, J. H.; Ramsey, C. B.</i> (Columbia, S.C.): The Use of Erythrocytes for Delivery of Chemotherapeutic Agents to the Reticuloendothelial System	42
<i>De Flora, A.; Morelli, A.; Benatti, U.</i> (Genoa): Entrapment of Normal and Mutant Glucose 6-Phosphate Dehydrogenase (G6PD) within G6PD Deficient Erythrocytes	50
<i>Fiorelli, G.; Ploner, T.; Berardi, W.; Manoussakis, C.</i> (Milan): G6PD Encapsulation and Metabolic Properties of Loaded Erythrocytes	57
<i>Updike, S. J.</i> (Madison, Wis.): Entrapment of L-Asparaginase in Red Blood Cells	65
<i>Way, J. L.; Leung, P.; Ray, L.; Sander, C.</i> (College Station, Tex.): Erythrocyte Encapsulated Thiosulfate Sulfurtransferase	75
<i>Ropars, C.; Chassaigne, M.; Villereal, M. C.; Avenard, G.; Hurel, C.; Nicolau, C.</i> (Tours/Paris/Orleans): Resealed Red Blood Cells as a New Blood Transfusion Product	82

<i>Nicolau, C.; Teisseire, B. P.; Ropars, C.; Vallez, M.-O.; Herigault, R. A.</i> (Orleans/Creteil/Tours): Incorporation of Allosteric Effectors of Hemoglobin in Red Blood Cells. Physiological Effects	92
<i>Tsong, T. Y.; Kinoshita, K., Jr.</i> (Baltimore, Md.): Use of Voltage Pulses for the Pore Opening and Drug Loading, and the Subsequent Resealing of Red Blood Cells	108
<i>Mishra, K. P.; Patel, M. C.; Ganatra, R. D.; Singh, B. B.</i> (Bombay): Encapsulation and Targeting of Drugs in Electrically Hemolysed Red Cells	115
<i>Ihler, M. G.</i> (College Station, Tex.): Entrapment of DNA and Fluorescent Compounds in Erythrocyte Carriers by Endocytosis	127
<i>Schlegel, R. A.</i> (University Park, Pa.): Red Cell-Mediated Microinjection of Antibodies	134
<i>Rechsteiner, M.; Wu, L. H.; Miller, A. O. A.</i> (Salt Lake City, Utah/Mons): RBC-Mediated Microinjection of Chromatin Components into Cultured Mammalian Cells	142
<i>Schlegel, R. A.; McEvoy, L.; Williamson, P.</i> (University Park, Pa./Amherst): Membrane Phospholipid Asymmetry and the Adherence of Loaded Red Blood Cells	150
<i>DeLoach, J. R.; Sprandel, U.; Green, R.</i> (Kerrville, Tex./Munich/Cleveland, Ohio): Carrier Erythrocytes: A Prospectus for the Future	157
Subject Index	160