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 REVIEW

Unveiling the Complexity of Red Blood Cells: Insights into Structure, Properties and Functions

Alexandra AVRAM[1], Aurora MOCANU[1], Gheorghe TOMOAIA[2,3], Cristina Lavinia ROȘOIU[1,4], Cristina Teodora DOBROTĂ[1,4], Diana Alexandra FLOREA[1], Maria TOMOAIA-COTISEL[1,3]

[1] Babes-Bolyai University of Cluj-Napoca, Faculty of Chemistry and Chemical Engineering,
Research Centre of Physical Chemistry, 11 Arany Janos Str., RO-400028, Cluj-Napoca, Romania
[2] Iuliu Hatieganu University of Medicine and Pharmacy, Department of Orthopedics and Traumatology, 47 General Traian Mosoiu Str., RO-400132, Cluj-Napoca, Romania
[3] Academy of Romanian Scientists, 3 Ilfov Str., RO-050044, Bucharest, Romania
[4] Babes-Bolyai University of Cluj-Napoca, Faculty of Biology and Geology, Department of Molecular Biology and Biotechnology, 44 Republicii Str., RO-400015, Cluj-Napoca, Romania
*Corresponding author: Maria Tomoaia-Cotisel, mcotisel@gmail.com
maria.tomoaia@ubbcluj.ro

Abstract. *Considering the basic function of red blood cells (RBC, erythrocytes) as carriers of oxygen and carbon dioxide throughout the bloodstream, as well as their possible secondary activities, RBCs deserve more consideration. The current work attempts to serve as a summary of RBC properties, both well-established and less well-established, with a focus on pathologies and drug interactions. This review is especially important given the recent trend of employing erythrocytes as vehicles for targeted medication delivery.*

Keywords: red blood cells, functions, pathology, interactions with drugs

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1. Introduction

Human blood is formed by plasma and a variety of cells, namely white (*leukocytes:* neutrophils, lymphocytes – B and T cells, monocytes, basophils, eosinophils and macrophages), red (*erythrocytes*) and platelets (*thrombocytes*) [1]. Although all blood components are quite complex, with new information being continuously discovered, they all have their basic functions. While less than 1% of the entire blood content, leukocytes aid in fighting against infections and disease [2]. Platelets, on the other hand, help stop bleeding by interacting with blood