

Special Issue

The Physiology and Pathophysiology of the Erythrocyte

Message from the Guest Editors

In this conceptual Journal Series, we are interested in the following questions regarding erythrocyte physiology and pathophysiology at the molecular level:

- 1) How does the erythrocyte “sense” and respond to hypoxic environments?
- 2) How does the erythrocyte “sense” and respond to mechanical forces that impinge on it as it flows through the vasculature?
- 3) How does the erythrocyte protect itself from oxidative stresses and how are damaged RBCs processed and removed from the circulation?
- 4) How does the erythrocyte signal the vascular endothelium and what is its relationship with the microcirculation in terms of O₂ autoregulation?
- 5) What roles do erythrocytes play in the immune and inflammatory responses?
- 6) What effects do blood storage or a range of diseases such as sickle-cell disease, xerocytosis, sepsis, diabetes and COVID-19 have on erythrocyte physiology and function. Keywords:

- erythrocyte
- hypoxia
- deoxyhemoglobin
- molecular switch
- metabolic shift
- mechanotransduction

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Deadline for manuscript submissions



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