Medical Xpress

A new way to boost red blood cell numbers

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A common treatment for anemia — a deficiency in red blood cells (rbcs) caused by their insufficient production, excessive destruction, or excessive loss — is administration of recombinant erythropoietin (Epo), a hormone that stimulates the production of rbc precursors by the bone marrow.

Unfortunately, many patients with anemia do not respond to treatment with Epo. However, a new study in mice, by Anne Angelillo-Scherrer and her colleagues at the University Hospital Center and University of Lausanne, Switzerland, has indicated that the protein Gas6 might augment or replace Epo in the treatment of patients who are hyporesponsive or resistant to Epo, respectively.

It was shown that following treatment with Epo, mouse rbc precursors released Gas6, which increased cell signaling in response to Epo treatment. In addition, mice deficient in Gas6 had decreased sensitivity to Epo and a reduced ability to recover from anemia. Administration of Gas6, either alone or in combination with Epo, was successful at treating both chronic and acute anemia in mice.

The authors therefore concluded that Gas6 has a role in rbc formation and might have valuable therapeutic potential for the treatment of individuals with anemia who fail to respond to treatment with Epo.

Source: Journal of Clinical Investigation

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