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## Two erythropoietic microenvironments and two larval red cell lines in bullfrog tadpoles ☆

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## Abstract

Previous work has shown that *Rana catesbeiana* tadpoles have two erythropoietic sites: mesonephric kidney and liver. Both sites apparently are active throughout larval life. Among the pleomorphic larval red blood cells (RBCs) we observe two morphological types which differ in the larval hemoglobins (Hb) that they contain. One type is an oblong, oval RBC with an acentric nucleus and contains the larval Hb which is slowest migrating on electrophoresis at basic pH. This RBC type emanates from the kidneys. The other type, which is elliptical in shape, with a central nucleus, contains three other larval Hbs and emanates from the liver. Histological sections of kidney and liver reveal erythropoietic foci of differing cellular composition and configuration. We have hypothesized that choice of RBC and Hb types is determined in part by the different erythropoietic microenvironments. In support of this hypothesis is our finding that, in organ cultures, liver cocultured with kidney undergoes a shift in its Hb pattern. Part of the shift is toward the Hb type which is the product of kidney erythropoiesis.

## Abbreviations

EGTA, ethyleneglycol bis(β-aminoethyl ether) *N*, *N'*-tetraacetic acid; Hb, hemoglobin; Hepes, *N*-2-hydroxyethyl piperazine-*N'*-2-ethanesulfonic acid; RBC, red blood cell

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