

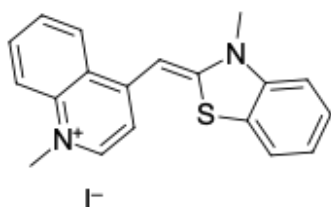
LumiCell Reticulocyte Stain

<http://www.lumiprobe.com/p/retic-count-reticulocyte-stain>

Reticulocytes are immature red blood cells produced in the bone marrow and released into the peripheral blood, where they mature into erythrocytes. An increase or decrease in reticulocyte count can indicate erythropoiesis activity or failure, especially relative to anemias and bone marrow dysfunction.

In mammals, reticulocytes lack a cell nucleus, like mature erythrocytes, but still contain residual organelles (ribosomes and mitochondria) and residual RNA and DNA, which are absent in mature red blood cells. The nucleic acid dyes, like Thiazole Orange, reveal the reticular (mesh-like) network of ribosomal RNA (rRNA) in reticulocytes, thereby visually differentiating them from mature erythrocytes. Also, the Thiazole Orange stain allows visual differentiating of reticulocyte staging — new cells have more RNA content than mature reticulocytes with low RNA content.

LumiCell Reticulocyte Stain is a ready-to-use solution of Thiazole Orange for determining a count of reticulocytes in human peripheral blood. Thiazole Orange adheres to rRNA and DNA, forming a fluorescent complex with absorption at 509 nm and emission at 532 nm. LumiCell Reticulocyte Stain is suitable both for microscopy and flow cytometry assays.



Structure of Thiazole Orange

General properties

Appearance:	orange solution
Molecular weight:	432.33
Molecular formula:	C ₁₉ H ₁₇ IN ₂ S
Quality control:	NMR ¹ H and HPLC-MS (95+%), functional testing
Storage conditions:	12 months after receipt at 2-8°C in the dark. Transportation: at room temperature for up to 3 weeks. Desiccate.
Legal statement:	Product is offered and sold for research purposes only. Product is not tested for safety and efficacy in food, drug, medical device, cosmetic, no express or implied authorization to use for any other purpose, including, without limitation, in vitro diagnostic purposes, for humans or animals or for commercial purposes.

Spectral properties

Excitation/absorption maximum, nm:	509
Emission maximum, nm:	532