

## Thiazole Orange Homodimer (TOTO®-1), 1 mM in DMSO

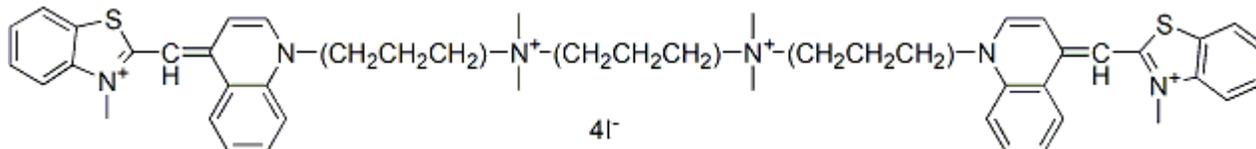
Thiazole Orange Homodimer (TOHd), also known as TOTO®-1, is a cell-impermeant, high-affinity, fluorogenic green nucleic acid stain.



### Product Description

Thiazole Orange Homodimer (TOHd), also known as TOTO®-1, is a green fluorescent, cell-impermeant nucleic acid stain that can be used to stain dead or fixed cells. The dye is essentially non-fluorescent in the absence of nucleic acids but exhibits strong excitation/emission maxima 514/531 nm when bound to nucleic acids. In addition, the dye is non-cytotoxic and may be used for long-term monitoring of viability in cell cultures.

- Dimeric nucleic acid stain
- Cell-impermeant
- $\lambda_{Ex}/\lambda_{Em}$  (with DNA) = 514/531 nm
- Supplied at 1 mM in DMSO
- C<sub>49</sub>H<sub>58</sub>I<sub>4</sub>N<sub>6</sub>S<sub>2</sub>
- MW: 1303



See the table below for other chemical equivalents of Thermo Fisher Scientific's branded dead-cell selective nucleic acid dyes.

Biotium also offers unique [NucSpot® Nuclear Stains](#) for bright and specific nuclear staining in dead or fixed cells. The stains are available in a wide range of colors from green to near-IR. See our [Cellular Stains Selection Guide](#) and [Cellular Stains Table](#) for more information on other nuclear stains we offer.

Product	Equivalent to	Color (Ex/Em)	Catalog No.
<a href="#">Oxazole Blue, 1 mM in DMSO</a>	PO-PRO™-1	Blue (434/457 nm)	<a href="#">40091</a>
<a href="#">Oxazole Blue Homodimer, 1 mM in DMSO</a>	POPOTM-1	Blue (433/457 nm)	<a href="#">40093</a>
<a href="#">Oxazole Yellow, 1 mM in DMSO</a>	YO-PRO®-1	Green (491/506 nm)	<a href="#">40089</a>
<a href="#">Oxazole Yellow Homodimer, 1 mM in DMSO</a>	YOYO®-1	Green (491/508 nm)	<a href="#">40090</a>
<a href="#">TO Iodide, 1 mM in DMSO</a>	TO-PRO®-1	Green (515/531 nm)	<a href="#">40088</a>
<a href="#">Thiazole Orange Homodimer, 1 mM in DMSO</a>	TOTO®-1	Green (514/531 nm)	<a href="#">40079</a>
<a href="#">Oxazole Red, 1 mM in DMSO</a>	YO-PRO®-3	Far-red (613/629 nm)	<a href="#">40105</a>
<a href="#">Oxazole Red Homodimer, 1 mM in DMSO</a>	YOYO®-3	Far-red (612/631 nm)	<a href="#">40106</a>
<a href="#">Thiazole Red, 1 mM in DMSO</a>	TO-PRO®-3	Far-red (642/657 nm)	<a href="#">40087</a>
<a href="#">Thiazole Red Homodimer, 1 mM in DMSO</a>	TOTO®-3	Far-red (642/661 nm)	<a href="#">40080</a>

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Product link: <https://biotium-woo.supremeclients.com/product/thiazole-orange-homodimer-1-mm-dms/>

### Product attributes

Apoptosis/viability marker	Dead cell stain
For live or fixed cells	For fixed cells, F
Detection method/readout	Fluorescence mi
Probe cellular localization	Nucleus & cytop
Assay type/options	No-wash staining
Cell permeability	Membrane imp
Colors	Green
CAS number	143413-84-7
Excitation/Emission	514/531 nm (wit