

## Datasheet for KLD-004

## Intracellular ThiolEZ™ Cell Survival Assay Kit

### Overview

<b>Description:</b>	Intracellular ThiolEZ™ Cell Survival Assay Kit - KLD-004
<b>Item No.:</b>	KLD-004
<b>Size:</b>	1 Kit
<b>Applications:</b>	Biochemical Assay

### Product Details

<b>Background:</b>	Intracellular ThiolEZ™ Cell Survival Assay Kit is an easy to use assay for measurement of thiols in cells; it measures total intracellular thiols including glutathione and cysteine. Glutathione is a natural antioxidant and a major thiol that limits cellular damage in healthy tissues during oxidative stress. It is also involved in repairing damage induced by cancer drugs and radiation and in the detoxification of several commonly used cancer chemotherapeutic drugs. Cysteine, which is a precursor for glutathione synthesis, is a further thiol present in cells. Cysteine is 10 times less abundant than the glutathione. Intracellular thiolEZ™ is ideal for investigators involved in aging research, oxidative stress, antioxidant screening, chemotherapy response and toxicology.
<b>Synonyms:</b>	Total intracellular thiol Assay, glutathione and cysteine assay, cell viability, cell survival, cellular viability, cellular survival, antioxidant assay
<b>Detection Kit Type:</b>	Cell Survival Kit

### Target Details

<b>Relevant Links:</b>	<ul style="list-style-type: none"><li><a href="#">Intracellular Thiol EZ kit insert</a></li></ul>
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### Application Details

<b>Suggested Applications:</b>	Biochemical Assay (Based on references)
<b>Application Note:</b>	Intracellular ThiolEZ™ Cell Survival Assay Kit contains enough reagents for 100 assays using a 6-well plate.
<b>Assay Dilutions:</b>	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.

**Other:** 100 assays using a 6-well plate

## Formulation

**Physical State:** n/a

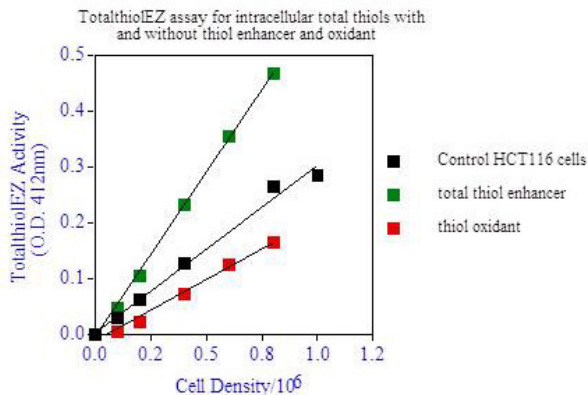
## Shipping & Handling

**Shipping Condition:** Wet Ice

**Storage Condition:** Store Kit at 4-8° C prior to opening. See kit insert for complete instructions.

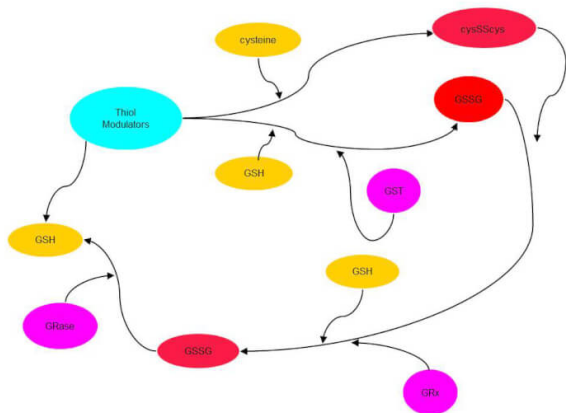
**Expiration:** See kit insert for complete instructions.

## Images



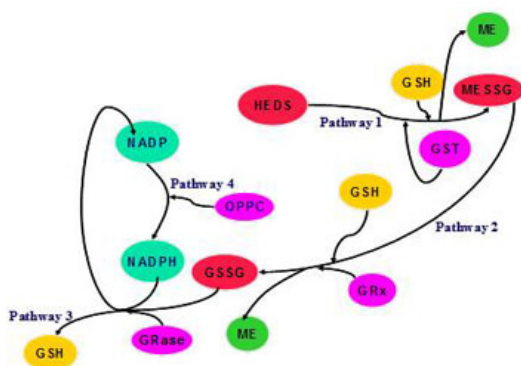
### ELISA

Intracellular ThioEZ™ Cell Survival Assay Kit is an easy to use assay for measurement of thiols in cells; it measures total intracellular thiols including glutathione and cysteine. Total ThioEZ assay for intracellular total thiols with and without thiol enhancer and oxidant.  $y=0.301x+0.004$   $r^2=0.989$ ;  $y=0.597x-0.007$   $r^2=0.999$ ;  $y=0.222x-0.011$   $r^2=0.988$ .



### Pathway

Pathways involved in thiol homeostasis in cells exposed to thiol modulators. Thiol modulators may react spontaneously with GSH and cysteine or in a reaction catalyzed by glutathione-S-transferase (GST) may produce disulfide of glutathione (GSH) or cysteine. Thiol modulators may also react with GSH to produce oxidized GSH (GSSG) and mixed disulfide with other molecules through the catalytic action of glutaredoxin (GRx). Thiol modulators may also enhance GSH either by bio-reduction or synthesis.



### Pathway

Schematic representation of the various pathways involved in the cellular interactions of HEDS. HEDS reacts spontaneously with glutathione (GSH) or in a reaction catalyzed by glutathione-S-transferase (GST) to produce mixed disulfide (MESSG) of GSH and mercaptoethanol (ME) (Pathway 1). The mixed disulfide MESSG reacts with GSH and produces ME and GSSG by the catalytic action of glutaredoxin (GRx) (Pathway 2). The glutathione disulfide GSSG reacts with NADPH and produces GSH by the catalytic action of glutathione reductase (GRase) (Pathway 3). The conversion of GSSG to GSH i.e. GSH recycling requires NADPH recycling (NADP+ NADPH) by oxidative pentose phosphate cycle (OPPC) (Pathway 4)

## Disclaimer

This product is for research use only and is not intended for therapeutic or diagnostic applications. Please contact a technical service representative for more information. All products of animal origin manufactured by Rockland Immunochemicals are derived from starting materials of North American origin. Collection was performed in United States Department of Agriculture (USDA) inspected facilities and all materials have been inspected and certified to be free of disease and suitable for exportation. All properties listed are typical characteristics and are not specifications. All suggestions and data are offered in good faith but without guarantee as conditions and methods of use of our products are beyond our control. All claims must be made within 30 days following the date of delivery. The prospective user must determine the suitability of our materials before adopting them on a commercial scale. Suggested uses of our products are not recommendations to use our products in violation of any patent or as a license under any patent of Rockland Immunochemicals, Inc. If you require a commercial license to use this material and do not have one, then return this material, unopened to: Rockland Inc., P.O. BOX 5199, Limerick, Pennsylvania, USA.