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| Data Sheet |
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| Product Information |
| **Product Name** | **:** | **Recombinant Human Thioredoxin1 (rhTRX1)** |
| **Synonyms** | **:**  | [TXN](http://www.genenames.org/cgi-bin/gene_symbol_report?hgnc_id=12435), TRDX, TRX, TRX1, thioredoxin |
| **Description** | **:** | Thioredoxins are [proteins](https://en.wikipedia.org/wiki/Protein) that act as antioxidants by facilitating the [reduction](https://en.wikipedia.org/wiki/Redox) of other proteins by [cysteine](https://en.wikipedia.org/wiki/Cysteine) [thiol-disulfide exchange](https://en.wikipedia.org/wiki/Disulfide_bond). Thioredoxins are found in nearly all known organisms and are essential for life in [mammals](https://en.wikipedia.org/wiki/Mammal). Thioredoxin is a 12-kD oxidoreductase enzyme containing a dithiol-disulfide active site. It is ubiquitous and found in many organisms from plants and bacteria to mammals. Two cysteines, CXXC [motif](https://en.wikipedia.org/wiki/Sequence_motif), are the key to the ability of thioredoxin to reduce other proteins. Thioredoxin proteins also have a characteristic [tertiary structure](https://en.wikipedia.org/wiki/Tertiary_structure) termed the [thioredoxin fol](https://en.wikipedia.org/wiki/Thioredoxin_fold)d. (Ref. From Wikipedia) |
| **NCBI Accession No.** | **:** | NM\_003329.3 |
| **Amino acid sequence** | **:** | **MVKQIESKTAFQEALDAAGDKLVVVDFSATWCGPCKMIKPFFHSLSEKYSNVIFLEVDVDDCQDVASECEVKCMPTFQFFKKGQKVGEFSGANKEKLEATINELV\*** |
| **Molecular Mass** | **:** | 11.71 kDa (105 aa) |
| **Protein Tags** | **:** | No tagging |
| **Source** | **:** | *E. coli.* |
| **Cat. No.** | **:** | JW-H039-0500, JW-H039-1000 |
| **Storage** | **:** | Should be at ≤ -70 ℃ as undiluted aliquots of handy size. Avoid repeated freezing and thawing. |
| **Cross Reactivity** | **:** | Human, Mouse, Pig, Rabbit, Rat, Sheep, Chicken |

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| Quality Control |
| **Test items** |  | **Specifications** |
| **Appearance** | **:** | Clear, colorless liquid |
| **Purity** | **:** | Greater than 95 % by SDS-PAGE |
| **Specificity** | **:** | Using Western blot, detection |  |
| **Concentration** | **:** | 0.1 mg/㎖, Bradford method |
| **Biological Activity** | **:** | Measured by its ability to catalyze the reduction of insulin. The reaction leads to precipitation, which can be measured by absorbance at 650nm. The specific activity is >10 A650/min/mg |
| **Endotoxin** | **:** | Less than 0.5 EU/㎍ as determined by the LAL method |
| **Formulation** | **:** | PBS, 0.1mM DTT (pH7.4) without preservative or carrier proteins. |
| **Stability** | **:** | Stable for up to 12 months at -70 ℃. Stable for a month at 4 ℃. |
| **Sterility** | **:** | Sterilized through a 0.2 ㎛ membrane filter and packaged aseptically. Culture for 2 weeks, no growth |
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