

# Human TOP2A Knockdown Cell Lysate

**Cat. No.** TOP2A-451HKCL    **Lot. No.** (See product label)

## SPECIFICATION

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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| <b>Product Overview</b> | WB-validated TOP2A Knockdown HeLa Cell Lysate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Species</b>          | Human                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Source</b>           | HeLa                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Description</b>      | <p>This gene encodes a DNA topoisomerase, an enzyme that controls and alters the topologic states of DNA during transcription. This nuclear enzyme is involved in processes such as chromosome condensation, chromatid separation, and the relief of torsional stress that occurs during DNA transcription and replication. It catalyzes the transient breaking and rejoining of two strands of duplex DNA which allows the strands to pass through one another, thus altering the topology of DNA. Two forms of this enzyme exist as likely products of a gene duplication event. The gene encoding this form, alpha, is localized to chromosome 17 and the beta gene is localized to chromosome 3. The gene encoding this enzyme functions as the target for several anticancer agents and a variety of mutations in this gene have been associated with the development of drug resistance. Reduced activity of this enzyme may also play a role in ataxia-telangiectasia.</p> |
| <b>Form</b>             | Cell-Tissue Lysis buffer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Molecular Mass</b>   | 174 kDa                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Notes</b>            | <p>Instruction of use: This knockdown cell lysate should be paired with wild-type HeLa cell lysate for use. For Western blotting, we recommend running wild-type and</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

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|-------------------------|----------------------------------------------------------------------------------------------------------------|
|                         | knockdown lysates on the same gel, and loading each well with equal volume and equal amount of total proteins. |
| <b>Storage</b>          | Store at -20 centigrade for two years.                                                                         |
| <b>Concentration</b>    | Lot-specific                                                                                                   |
| <b>Shipping</b>         | Blue Ice                                                                                                       |
| <b>Components</b>       | 1 vial of 100 µg WT HeLa cell lysate 1 vial of 100 µg TOP2A KD HeLa cell lysate                                |
| <b>Protein Families</b> | Druggable Genome                                                                                               |
| <b>Lysate QC</b>        | RT-qPCR; Western Blotting (WB)                                                                                 |

## GENE INFORMATION

|                        |                                                                                                                                                                                                                                                    |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Gene Name</b>       | TOP2A topoisomerase (DNA) II alpha 170kDa [ Homo sapiens (human) ]                                                                                                                                                                                 |
| <b>Official Symbol</b> | TOP2A                                                                                                                                                                                                                                              |
| <b>Synonyms</b>        | TOP2A; topoisomerase (DNA) II alpha 170kDa; TOP2, topoisomerase (DNA) II alpha (170kD); DNA topoisomerase 2-alpha; DNA gyrase; DNA topoisomerase II, 170 kD; DNA topoisomerase (ATP-hydrolyzing); DNA topoisomerase II, alpha isozyme; TOP2; TP2A; |
| <b>Gene ID</b>         | 7153                                                                                                                                                                                                                                               |
| <b>mRNA Refseq</b>     | NM_001067                                                                                                                                                                                                                                          |
| <b>Protein Refseq</b>  | NP_001058                                                                                                                                                                                                                                          |

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| MIM | 126430 |
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| UniProt ID | P11388 |
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