# RPIA Lysate – Tissue Lysate

## PRODUCT OVERVIEW

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| **Product Name** | RPIA, Lysate |
| **Full Product Name** | Human RPIA Protein Lysate |
| **Product Gene Name** | RPIA lysate |
| **Product Synonym Names** | RPIA; RPI; RPIAD |
| **Host** | Human |
| **Form/Format** | Lyophilized |
| **Preparation and Storage** | Store at -20 degree C<br>Once reconsituted, aliquot and store any remaining material at-20 degree C to avoid repeated freeze-thaw cycles. |
| **Molecular Weight** | 35.4kDa (331aa), confirmed by MALDI-TOF |
| **OMIM** | 180430 |
| **3D Structure** | ModBase 3D Structure for P49247 |
| **Related Product Information for RPIA lysate** | Human RPIA Protein Lysate 20ug is provided as a Lyophilized powder.<br>This is a Recombinant Protein Lysate produced in HEK293T cells. This protein lysate can be reconsituted using SDS Sample Buffer. |
| **Other Notes** | Small volumes of RPIA lysate vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply. |
| **Searchable Terms for RPIA purchase** | MBS8418768 is a lysate targeting RPIA. Also known as Human RPIA Protein Lysate. Host: Human. |

## ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for RPIA. It may not necessarily be applicable to this product.

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| **NCBI GI #** | 94536842 |
| **NCBI GeneID** | 22934 |
| **NCBI Accession #** | NP_653164 |
| **UniProt Primary Accession #** | P49247 |
| **UniProt Secondary Accession #** | Q541P9; Q96BJ6 |
| **UniProt Related Accession #** | P49247 |
| **GenBank Nucleotide #** | NM_144563 |
| **NCBI Official Full Name** | ribose-5-phosphate isomerase |
| **NCBI Official Synonym Full Names** | ribose 5-phosphate isomerase A |
| **NCBI Official Symbol** | RPIA |
| **NCBI Official Synonym Symbols** | RPI; RPIAD |
| **UniProt Protein Name** | Ribose-5-phosphate isomerase |
| **UniProt Synonym Protein Names** | Phosphoriboisomerase |

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|---|---|
| **Protein Family** | Ribose-5-phosphate isomerase |
| **UniProt Gene Name** | RPIA |
| **UniProt Synonym Gene Names** | RPI |
| **UniProt Entry Name** | RPIA_HUMAN |
| **NCBI Protein Information** | ribose-5-phosphate isomerase |
| **NCBI Summary for RPIA** | The protein encoded by this gene is an enzyme, which catalyzes the reversible conversion between ribose-5-phosphate and ribulose-5-phosphate in the pentose-phosphate pathway. This gene is highly conserved in most organisms. The enzyme plays an essential role in the carbohydrate metabolism. Mutations in this gene cause ribose 5-phosphate isomerase deficiency. A pseudogene is found on chromosome 18. [provided by RefSeq, Mar 2010] |
| **UniProt Comments for RPIA** | RPIA: Defects in RPIA are the cause of ribose 5-phosphate isomerase deficiency (RPID). A patient has been described with a deficiency of ribose 5-phosphate isomerase who presented with leukoencephalopathy and peripheral neuropathy. Proton magnetic resonance spectroscopy of the brain revealed a highly elevated level of the polyols ribitol and D-arabitol, which were subsequently also found in high concentrations in body fluids. Deficient activity of RPIA, one of the pentose phosphate pathway enzymes, has been demonstrated in fibroblasts. Belongs to the ribose 5-phosphate isomerase family.<br><br>Protein type: EC 5.3.1.6; Carbohydrate Metabolism - pentose phosphate pathway; Isomerase<br><br>Chromosomal Location of Human Ortholog: 2p11.2<br><br>Cellular Component: intracellular membrane-bound organelle; cytosol<br><br>Molecular Function: monosaccharide binding; ribose-5-phosphate isomerase activity<br><br>Biological Process: pentose-phosphate shunt; carbohydrate metabolic process; pentose-phosphate shunt, non-oxidative branch; pathogenesis<br><br>Disease: Ribose 5-phosphate Isomerase Deficiency |
| **Research Articles on RPIA** | **1.** The results are consistent with a model in which RPIA suppresses autophagy and LC3 processing by modulation of redox signaling. |
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