# Recombinant PID3 protein (His tag)

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| **Catalog Number** | 531999 |
| **Synonyms** | piRNA biogenesis and chromosome segregation protein 1; piRNA-induced silencing defective protein 3 |
| **Species** | Caenorhabditis elegans |
| **Expression System** | E. coli |
| **Accession** | O76616 |
| **Gene ID** | 171819 |
| **Molecular Weight** | Predictes a molecular mass of 19.30 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 19 kDa band. |

## Product Information

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| **Sequence Region** | 1-151 |
| **Form** | Lyophilized powder |
| **Formulation** | Lyophilized from sterile PBS, pH 7.4 |
| **Purity** | >89%, by SDS-PAGE with Coomassie Brilliant Blue staining. |
| **Endotoxin** | Not tested. |
| **Activity** | Not tested. |
| **Stability** | Samples are stable for up to twelve months from date of receipt at -70℃ |
| **Protein Construction** | DNA encoding 1-151 aa (O76616) were fused with 6His tag. |

## Storage & Handling

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| **Reconstitution** | Reconstitute at 0.25 μg/μl in sterile water for short-term storage. Reconstitution with 50% glycerol solution is recommended for longer term storage (see Stability and Storage for more details). If a different concentration is needed for your purposes please adjust the reconstitution volume as required (please note: the ion concentration of the final solution will vary according to the volume used). Note: Centrifuge vial before opening. When reconstituting, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution. |
| **Storage** | Store it under sterile conditions at -20℃ to -80℃. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles. |
| **Shipping** | In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature.<br>Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise. |

## Description

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| **Description** | Recombinant Protein pid-3 (piRNA biogenesis and chromosome segregation protein 1) Fragment (1-151) from Caenorhabditis elegans. This high-quality recombinant fragment represents a stable and soluble unit of the essential piRNA biogenesis factor, ideal for structural studies and functional characterization of the PETISCO complex components involved in small RNA pathways and chromosome segregation.<br>Protein pid-3 is a critical component of the PETISCO complexes, specifically the pid-1 and tost-1 variants, which play essential roles in 21U-RNA (piRNA) biogenesis and embryogenesis. The protein functions in stabilizing 21U-RNA precursor molecules and promoting the biogenesis of these PIWI-interacting RNAs that possess a uracil residue at the 5'-end. Additionally, pid-3 is required for proper chromosome segregation and cell division during early embryonic development. The protein exhibits dynamic subcellular localization, distributing throughout the cytoplasm in early embryos, localizing to the nucleus during prophase of cell division, and forming perinuclear puncta in the germline syncytium. This fragment (amino acids 1-151) was computationally selected to represent a stable and soluble protein unit, enabling detailed structural and biochemical investigations into the molecular mechanisms of piRNA biogenesis and chromosome segregation processes. |