

## PROTEIN DATASHEET

PROTEIN NUMBER	PROTEIN NAME	EXPRESSION HOST
2024-2389	LDH-Pk (Purified recombinant <i>Plasmodium knowlesi</i> LDH)	<i>Escherichia coli</i>

### GENERAL INFORMATION

Construct Design	: LDH-Pk (2-316) was expressed with a polyhistidine-tag followed by a Human Rhinovirus 3C protease cleavage site at the N-terminus.  Full length: 334 amino acids Primary sequence length: 315 amino acids (2Ala- 316Ile)
Theoretical Molecular Mass	: 36.34 kDa
Theoretical pI	: 6.83
Cell Strain	: <i>Rosetta (DE3) pLysS</i>
Protein Description	: The Lactate dehydrogenase protein (LDH) is critical for the conversion of lactate to pyruvate in the anaerobic glycolysis pathway to generate ATP for the malarial parasite to survive in the human host. Structural and sequence identity of LDH from <i>Plasmodium knowlesi</i> is highly similar to LDH from <i>Plasmodium falciparum</i> , with only minor conformational differences identified.
Application	: A wide range of assays, such as enzymatic assays, immunoassays, and protein-protein interaction assays.  Note: The optimal working dilution should be determined by the user.
Restriction	: This product is for research use only. It is not intended for use in humans.

### FORMULATION AND STORAGE

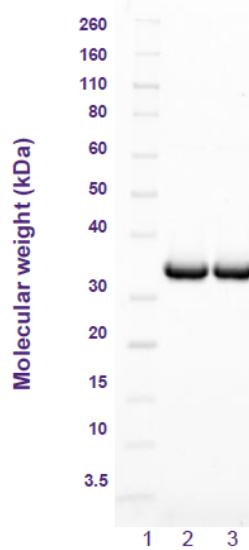
Form	: Liquid
Purity	: > 99 % as determined by SDS-PAGE
Protein Concentration	: 6.7 mg/mL (Lot specific)
Storage Buffer	: Phosphate Buffer Saline + 5% Glycerol
Storage Condition	: For longer-term storage, aliquot in small volumes and store at -80°C. Repeated freeze-thaw cycles are not recommended.
Shipping Condition	: Shipped on dry ice. Stored at -80°C upon receipt.

### COMPREHENSIVE QUALITY CONTROL

Protein Purity	:	Determined by SDS-PAGE and analytical SEC
Protein Stability	:	Freeze-thaw stability by SDS-PAGE
		Protein unfolding and aggregation onset temperature determined by differential scanning fluorimetry

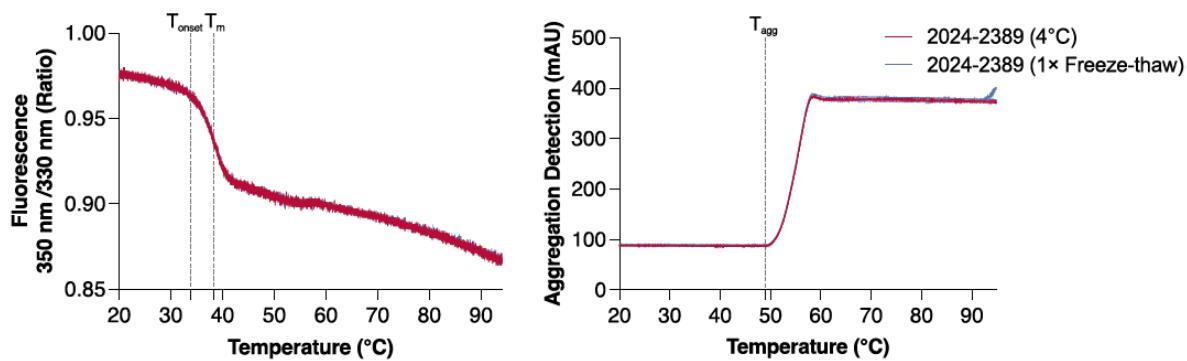
### QUALITY CONTROL DATA

#### SDS-PAGE and Peptide Mass Fingerprinting (PMF)



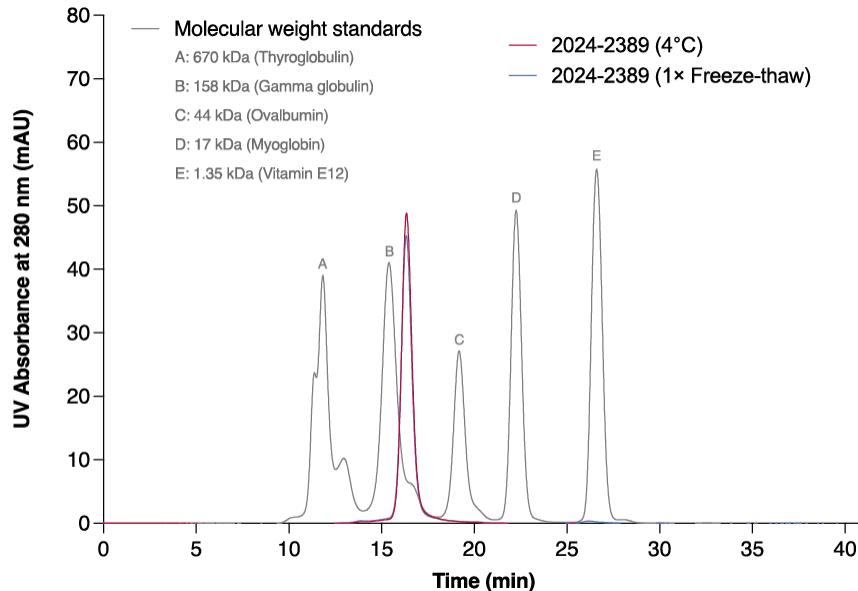
- **Lane 1:** MW ladder / **Lane 2:** LDH-Pk reduced / **Lane 3:** LDH-Pk non-reduced
- The protein was determined to have a purity of 99% and was identified as LDH-Pk by PMF.

#### Nano Differential Scanning Fluorimetry (NanoDSF)



- NanoDSF analysis shows a thermal stability profile (A) and aggregation analysis (B) as expected for this protein.

### Analytical Size Exclusion Chromatography



Recipients using LDH-Hu from The Protein Expression Facility must acknowledge the facility's contribution in written publications and/or oral presentations. The author/s acknowledge the facilities and the scientific and technical assistance of the Protein Expression Facility (PEF) at The University of Queensland.