

PROTEIN DATASHEET

PROTEIN NUMBER	PROTEIN NAME	EXPRESSION HOST
2016-1276	Histidine-rich protein 2 W2 (Purified recombinant HRP2 from <i>P. falciparum</i> strain W2)	<i>Escherichia coli</i>

GENERAL INFORMATION

Construct Design	: HRP2_W2 (GenBank: AAX28633.1) was expressed with a polyhistidine tag followed by a thioredoxin tag and a Human Rhinovirus 3C protease cleavage site at the N-terminus. Full length: 386 amino acids Primary sequence length: 255 amino acids
Theoretical Molecular Mass	: 41.15 kDa
Theoretical pI	: 6.38
Cell Strain	: <i>BL21(DE3)</i>
Protein Description	: The HRP2 (Histidine-Rich Protein 2) from the W2 strain is a water-soluble protein secreted by <i>Plasmodium falciparum</i> and serves as a critical biomarker in malaria research. Derived from a multidrug-resistant Indochina clone, this protein is the primary target for Rapid Diagnostic Tests (RDTs) and is used globally to standardise drug susceptibility assays. Because the W2 strain consistently expresses the <i>pfhrp2</i> gene, it remains a gold-standard reference for validating test sensitivity and monitoring parasite growth in laboratory settings.
Application	: A wide range of assays, such as enzymatic assay, immunoassay, and protein-protein interaction assay. 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	: 89% as determined by SDS-PAGE
Protein Concentration	: 0.33 mg/mL (Lot specific)
Storage Buffer	: Phosphate Buffer Saline + 5% Glycerol

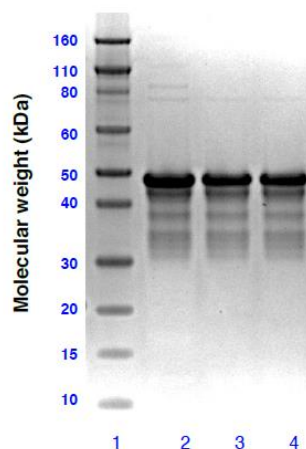
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|--------------------|---|--|
| Storage Condition | : | For longer-term storage, aliquot in small volumes and store at -80°C. Repeated freeze-thaw cycles are not recommended. |
| Shipping Condition | : | Shipped on dry ice. Stored at -80°C upon receipt. |

COMPREHENSIVE QUALITY CONTROL

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

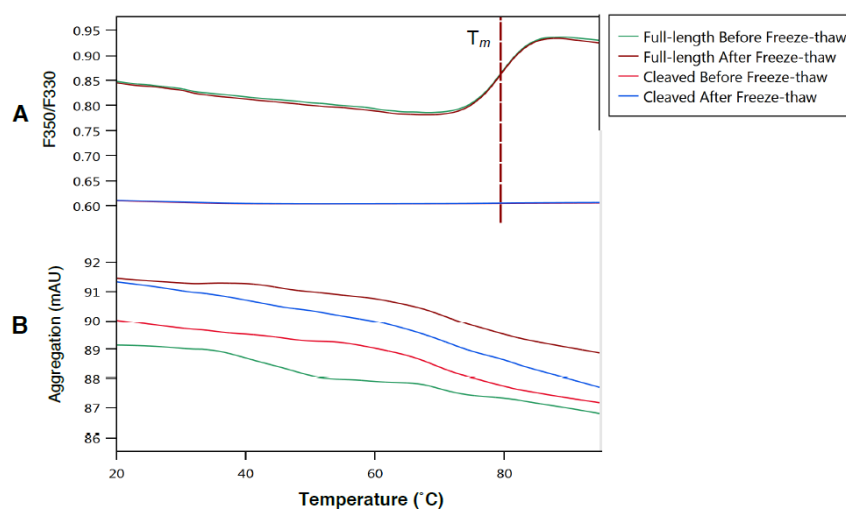
QUALITY CONTROL DATA

SDS-PAGE and Peptide Mass Fingerprinting (PMF)



- **Lane 1:** MW ladder / **Lane 2:** HRP2 W2 / **Lane 3:** HRP2 W2 filtered / **Lane 4:** HRP2 W2 freeze-thaw
- The protein was determined to have a purity of 89% and was identified as HRP2 by PMF.

Nano Differential Scanning Fluorimetry (NanoDSF)



- NanoDSF analysis shows a thermal stability profile as expected for this protein.

Recipients using HRP2 W2 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.