

DnaJ (E. coli), (recombinant) (His- tag)

Escherichia coli heat shock protein DnaJ belongs to the molecular chaperone class of proteins. Located in an operon with *dnaK*, the *E. coli* *dnaJ* gene shares sequence identity with eukaryotic cytosolic and endoplasmic reticulum DnaJ homologs (Hsp40) involved in protein folding, membrane translocation of newly synthesized proteins, and initiation of translation. The N-terminal, highly-conserved "J" domain of the DnaJ protein supports interaction with the DnaK protein and represents the signature sequence of DnaJ family members. Bacterial DnaJ protein acts synergistically with bacterial chaperones DnaK (Hsp70 homolog) and GrpE in various functions, including suppressing eukaryotic and prokaryotic polypeptide aggregation to promote protein folding, facilitating protein translocation through intracellular compartments or protein secretion, and repairing and reactivating partially aggregated enzymes such as *E. coli* RNAP and luciferase. In these reactions, DnaJ protein facilitates the binding of DnaK to its substrate by accelerating DnaK-catalyzed ATP hydrolysis to produce a DnaK-ADP form with a higher affinity for certain protein substrates. Some eukaryotic homologues of DnaJ also display an ability to stimulate the ATPase activity of Hsp70 proteins, including DnaJ homologue *S. cerevisiae* YDJ1 which interacts with DnaK homologue Ssa1 to stimulate its ATPase activity. Data suggests that DnaJ protein acting alone possesses chaperone activity, demonstrating an ability to bind tightly to denatured proteins such as rhodanese or luciferase to prevent their aggregation or misfolding.

Citations: 5

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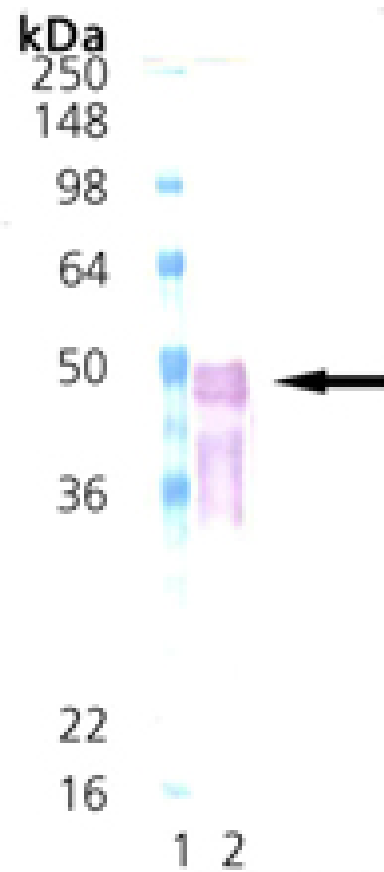
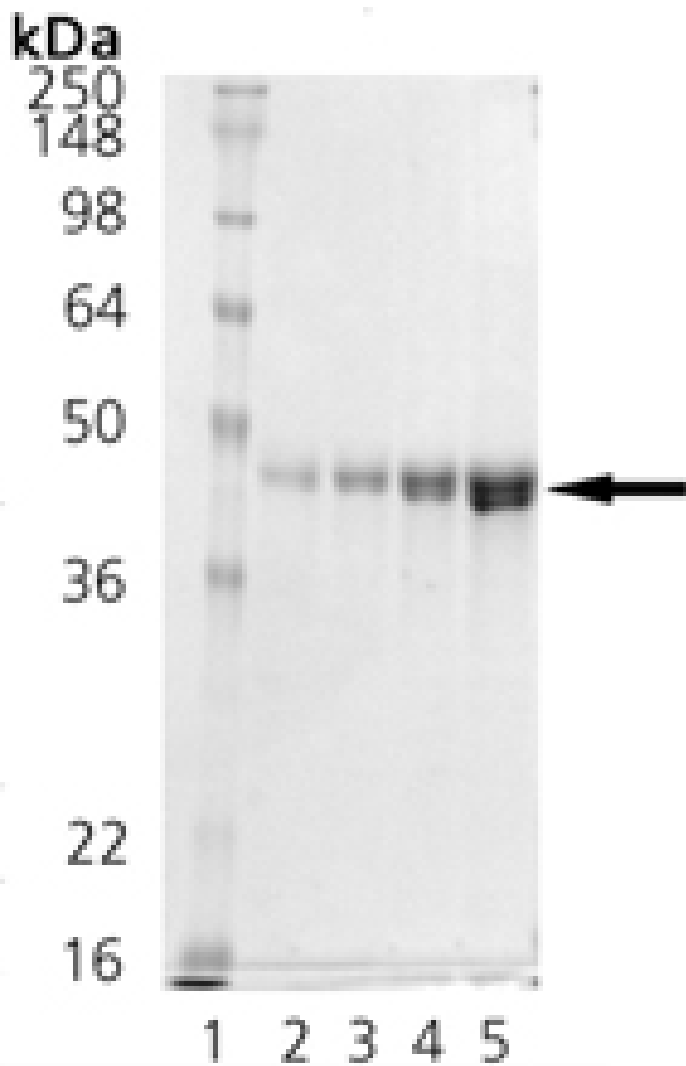
Ordering Information

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ADI-SPP-640-J	1mg
ADI-SPP-640-D	50µg
ADI-SPP-640-F	200µg

Manuals, SDS & CoFA

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Handling & Storage

Long Term Storage -80°C

Shipping Dry Ice

Regulatory Status RUO - Research Use Only

Product Details

Alternative Name DNAJB2, DnaJ HSJ1, HSPF3, HSP40

Application Notes Western blot control.

Formulation Liquid. In 25mM HEPES, pH 7.5, containing 200mM potassium chloride, 10% glycerol, and 5mM DTT.

MW ~43kDa

Purity ≥90% (SDS-PAGE; Western blot)

Purity Detail Purified by multi-step chromatography.

Source Produced in *E. coli*. *E. coli* DnaJ is fused at the N-terminus to a His-tag.

UniProt ID P08622



ENZO LIFE SCIENCES,
INC.
Phone: 800.942.0430
[info-
usa@enzolifesciences.com](mailto:info-usa@enzolifesciences.com)

European Sales Office
ENZO LIFE SCIENCES
(ELS) AG
Phone: +41 61 926 8989
[info-
eu@enzolifesciences.com](mailto:info-eu@enzolifesciences.com)

Belgium, The Netherlands
& Luxembourg
Phone: +32 3 466 0420
[info-
be@enzolifesciences.com](mailto:info-be@enzolifesciences.com)

France
Phone: +33 472 440 655
[info-
fr@enzolifesciences.com](mailto:info-fr@enzolifesciences.com)

Germany
Phone: +49 7621 5500 526
[info-
de@enzolifesciences.com](mailto:info-de@enzolifesciences.com)

UK & Ireland
Phone (UK customers):
0845 601 1488
Phone: +44 1392 825900
[info-
uk@enzolifesciences.com](mailto:info-uk@enzolifesciences.com)