

Lot # XXXXX

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## MATERIAL DATA SHEET

### HSP10/HSPE1, *human recombinant*

Cat. # AP-150

HSP10 (also known as Chaperonin 10) is the eukaryotic homologue of the prokaryotic GroES chaperones. This protein is found mainly in mitochondria, but can also be detected in cytosol and extracellular fluids including peripheral blood. Together with HSP60 (also known as Chaperonin 60), HSP10 plays an essential role in the translocation and refolding of proteins from the cytosol into the mitochondrial matrix. Under physiological conditions, HSP60 creates two stacked heptameric rings that form a pair of central hydrophobic cavities. After an unfolded substrate protein enters one of the cavities it is capped by a heptameric HSP10 complex, thereby trapping the unfolded protein. Structural rearrangement of the substrate-containing cavity is effected via HSP60-mediated ATP hydrolysis; this changes the lining of the cavity from hydrophobic to hydrophilic and helps promote refolding of the substrate protein. Binding of ATP to HSP60 subunits on the distal ring of the complex then causes the dissociation of the HSP10 cap complex and concomitant release of the substrate protein from the proximal cavity. If the protein is not completely folded, it can be further processed by the HSP60/HSP10 complex, or can interact with other chaperoning systems.

#### Product Information

<b>Quantity:</b>	50 µg
<b>Stock:</b>	X mg/ml (X µM) in 50 mM Hepes pH 7.5, 100 mM NaCl, 1 mM TCEP
<b>MW:</b>	11 kDa
<b>Purity:</b>	> 85% by SDS-PAGE

#### Use & Storage

<b>Use:</b>	Typical enzyme concentration for use <i>in vitro</i> is dependent on specific application.
<b>Storage:</b>	Store at -80°C. Avoid multiple freeze/thaw cycles.

#### Literature

<b>References:</b>	Cappello F, <i>et al.</i> (2008) <u>Cancer Biol. Therapy</u> <b>7</b> : 801-809 Hartl F.U. & Hayer-Hartl M. (2009) <u>Nat. Struc. Mol. Biol.</u> <b>16</b> : 574-581
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