

Mitochondrial Marker Antibody Sampler Kit



✓ 1 Kit
(8 x 20 µl)

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For Research Use Only. Not For Use In Diagnostic Procedures.

Products Included	Product #	Quantity	Mol. Wt.	Isotype
COX IV (3E11) Rabbit mAb	4850	20 µl	17 kDa	Rabbit IgG
Cytochrome c (136F3) Rabbit mAb	4280	20 µl	14 kDa	Rabbit IgG
HSP60 (D6F1) XP® Rabbit mAb	12165	20 µl	60 kDa	Rabbit IgG
PHB1 Antibody	2426	20 µl	32 kDa	Rabbit IgG
Pyruvate Dehydrogenase (C54G1) Rabbit mAb	3205	20 µl	43 kDa	Rabbit IgG
SDHA (D6J9M) XP® Rabbit mAb	11998	20 µl	70 kDa	Rabbit IgG
SOD1 (71G8) Mouse mAb	4266	20 µl	18 kDa	Mouse IgG1
VDAC (D73D12) Rabbit mAb	4661	20 µl	32 kDa	Rabbit IgG
Anti-mouse IgG, HRP-linked Antibody	7076	100 µl		Horse
Anti-rabbit IgG, HRP-linked Antibody	7074	100 µl		Goat

See www.cellsignal.com for individual component applications, species cross-reactivity, dilutions and additional application protocols.

Description: The Mitochondrial Marker Antibody Sampler Kit provides an economical means to evaluate relevant mitochondrial proteins. This kit includes enough antibody to perform two western blot experiments with each primary antibody.

Background: The Mitochondrial Marker Antibody Sampler Kit contains a variety of antibodies directed against established mitochondrial proteins. Cytochrome c oxidase (COX) is a hetero-oligomeric enzyme consisting of 13 subunits localized to the inner mitochondrial membrane (1). Cytochrome c is a well conserved electron-transport protein and is part of the respiratory chain localized to the mitochondrial intermembrane space (2). HSP60 has primarily been known as a mitochondrial protein that is important for folding key proteins after import into the mitochondria (3). In the mitochondria, prohibitins (PHB1) mainly exist as membrane-bound ring complexes and function as chaperones maintaining mitochondrial protein stability during protein synthesis and transportation (4). In mammalian cells, the pyruvate dehydrogenase complex is located in the mitochondrial matrix (5). Succinate dehydrogenase (SDH), also known as Complex II or succinate quinone oxidoreductase, is a key component of the citric acid cycle and the electron transport chain (6). SOD1 is ubiquitously expressed and is localized in the cytosol, nucleus, and mitochondrial intermembrane space (7). Voltage-dependent anion channel (VDAC), ubiquitously expressed and located in the outer mitochondrial membrane, is generally thought to be the primary means by which metabolites diffuse in and out of the mitochondria (8).

Specificity/Sensitivity: Each antibody in the Mitochondrial Marker Antibody Sampler Kit recognizes endogenous levels of total respective protein. SOD1 (71G8) Mouse mAb does not cross-react with other related proteins.

Source/Purification: Rabbit monoclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Lys29 of human COX IV protein, residues 67-78 of human cytochrome c protein, Trp68 of human HSP60 protein, the sequence of human pyruvate dehydrogenase protein, Gly166 or human SDHA protein, or residues near the amino terminus of human VDAC-1 protein. Mouse monoclonal antibody is produced by immunizing animals with full-length recombinant human SOD1 protein.

Polyclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Ser252 of human PHB1 protein. Polyclonal antibody is purified by protein A and peptide affinity chromatography.

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibodies.

Recommended Antibody Dilutions:
Western blotting 1:1000

Please visit www.cellsignal.com for validation data and a complete listing of recommended companion products.

Background References:

- (1) Ostermeier, C. et al. (1996) *Curr Opin Struct Biol* 6, 460-6.
- (2) Schagger, H. (2002) *Biochim Biophys Acta* 1555, 154-9.
- (3) Jindal, S. et al. (1989) *Mol Cell Biol* 9, 2279-83.
- (4) Tatsuta, T. et al. (2005) *Mol Biol Cell* 16, 248-59.
- (5) Strumilo, S. (2005) *Acta Biochim Pol* 52, 759-64.
- (6) Oyedotun, K.S. and Lemire, B.D. (2004) *J Biol Chem* 279, 9424-31.
- (7) Sherman, L. et al. (1983) *Proc Natl Acad Sci U S A* 80, 5465-9.
- (8) Craigen, W.J. and Graham, B.H. (2008) *J Bioenerg Biomembr* 40, 207-12.

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