Revision 1

Store at -20C

#9745

HtrA2/Omi (D20A5) Rabbit mAb

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H M R Mk	Endogenous	36	Rabbit IgG	#O43464	27429

Product Usage Information

Application	Dilution
Western Blotting	1:1000

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 antibody.

Specificity/Sensitivity

HtrA2/Omi (D20A5) Rabbit mAb recognizes endogenous levels of total HtrA2/Omi protein. This antibody does not cross-react with HtrA1.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Phe341 of human HtrA2/Omi protein.

Background

High temperature requirement protein A2 (HtrA2)/Omi is a serine protease with homology to the *E. coli* HtrA protein (DegP) and is thought to be involved in apoptosis and stress-induced degradation of misfolded proteins (1). While HtrA2 was orignally identified to be present in either the nucleus (1) or endoplasmic reticulum (2), subsequent studies have shown that it localizes in mitochondria and is released during apoptosis (3-7). HtrA2 is produced as a 50 kDa zymogen that is cleaved to generate a 36 kDa mature protein that exposes an amino terminal motif (AVPS) resembling that of the IAP inhibitor Smac/Diablo (3-7). Like Smac, interaction between HtrA2 and IAP family members, such as XIAP, antagonizes their inhibition of caspase activity and protection from apoptosis (3-7). Interestingly, HtrA2 knock-out mice did not show signs of reduced apoptosis, but rather had a loss of neurons in the striatum and a Parkinson's-like phenotype, suggesting that HtrA2 might have a neuroprotective function (8-10). This activity is associated with the protease activity of HtrA2 (8). Furthermore, research studies have shown that loss of function mutations in the HtrA2 gene are associated with Parkinson's disease (11).

Background References

1. Gray, C.W. et al. (2000) *Eur. J. Biochem.* 267, 5699-5710.
2. Faccio, L. et al. (2000) *J. Biol. Chem.* 275, 2581-2588.
3. Suzuki, Y. et al. (2001) *Mol. Cell* 8, 613-621.
4. Hegde, R. et al. (2002) *J. Biol. Chem.* 277, 432-438.
5. Martins, L.M. et al. (2002) *J. Biol. Chem.* 277, 439-444.
6. van Loo, G. et al. (2002) *Cell Death Differ.* 9, 20-26.
7. Verhagen, A.M. et al. (2002) *J. Biol. Chem.* 277, 445-454.
8. Jones, J.M. et al. (2003) *Nature* 425, 721-727.
9. Vaux, D.L. and Silke, J. (2003) *Cell* 115, 251-253.
10. Martins, L.M. et al. (2004) *Mol. Cell Biol.* 24, 9848-9862.
11. Strauss, K.M. et al. (2005) *Hum. Mol. Genet.* 14, 2099-2111.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat **Mk:** Monkey

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