

#3495 Store at -20°C

Beclin-1 (D40C5) Rabbit mAb



✓ 100 µl
(10 western blots)

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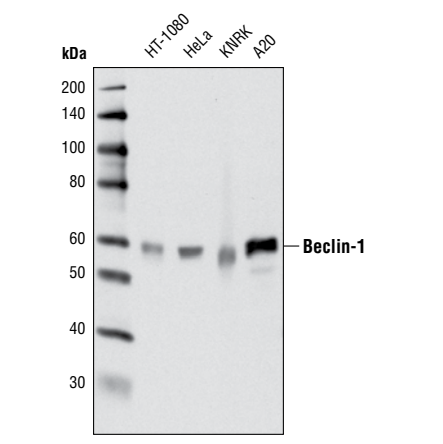
This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

Applications	Species Cross-Reactivity*	Molecular Wt.	Isotype
W, IP Endogenous	H, M, R, Mk	60 kDa	Rabbit IgG**

Background: Autophagy is a catabolic process for the autophagosomal-lysosomal degradation of proteins activated in response to nutrient deprivation and in neurodegenerative conditions (1). One of the proteins critical to this process is Beclin-1, the mammalian orthologue of the yeast autophagy protein Apg6/Vps30 (2). Beclin-1 can complement defects in yeast autophagy caused by loss of Apg6 and can also stimulate autophagy when overexpressed in mammalian cells (3). Mammalian Beclin-1 was originally isolated in a yeast-two hybrid screen for Bcl-2 interacting proteins and has been shown to interact with Bcl-2 and Bcl-xL but not with Bax or Bak (4). While Beclin-1 is generally ubiquitously expressed, it is monoallelically deleted in 40–75% of sporadic human breast and ovarian cancers (5). It is localized within cytoplasmic structures including the mitochondria, although overexpression of Beclin-1 reveals some nuclear staining and CRM1-dependent nuclear export (6). Beclin-1 ^{-/-} mice die early in embryogenesis and Beclin-1 ^{+/-} mice have a high incidence of spontaneous tumors. Stem cells from the null mice demonstrate an altered autophagic response although responses to apoptosis appeared normal (7). Overexpression of Beclin-1 in virally infected neurons in vivo resulted in significant protection against Sindbis virus-induced disease and neuronal apoptosis (4).

Specificity/Sensitivity: Beclin-1 (D40C5) Rabbit mAb detects endogenous levels of total Beclin-1 protein.

Source/Purification: Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Thr72 of human Beclin-1.



Western blot analysis of extracts from various cell lines using Beclin-1 (D40C5) Rabbit mAb.

Entrez-Gene ID #8678
Swiss-Prot Acc. #Q14457

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.

*Species cross-reactivity is determined by western blot.

**Anti-rabbit secondary antibodies must be used to detect this antibody.

Recommended Antibody Dilutions:

Western blotting	1:1000
Immunoprecipitation	1:100

For application specific protocols please see the web page for this product at www.cellsignal.com.

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

Background References:

- (1) Reggiori, F. and Klionsky, D.J. (2002) *Eukaryotic Cell* 1, 11–21.
- (2) Kametaka, S. et al. (1998) *J. Biol. Chem.* 273, 22284–22291.
- (3) Liang, X. H. et al. (1999) *Nature* 402, 672–676.
- (4) Liang, X. H. et al. (1998) *J. Virol.* 72, 8586–8596.
- (5) Aita, V. M. et al. (1999) *Genomics* 59, 59–65.
- (6) Liang, X. H. et al. (2001) *Cancer Res.* 61, 3443–3449.
- (7) Yue, Z. et al. (2003) *Proc. Natl. Acad. Sci. USA* 100, 15077–15082.

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

Applications Key: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide
Species Cross-Reactivity Key: H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine
 Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—Horse All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.