

# UBE2G1 (G-12): sc-109118

## BACKGROUND

Ubiquitin is an abundant, highly conserved protein found in all eukaryotic cells either free or covalently attached to cellular proteins. The primary function of ubiquitin in mammalian systems is to clear abnormal, foreign and improperly folded proteins by targeting them for proteasome degradation. In *Saccharomyces cerevisiae*, ubiquitin-like proteins include Rub1, Ula1, Uba3, Smt3, Ubc2, Ubc12 and Ubc9. Rub1 shares 53% homology with ubiquitin and requires activation via the E2 proteins, including Ula1, Uba3 and Ubc12 in order to conjugate to substrates directed to different proteolytic systems. Ubc4 catalyzes ubiquitination of I $\kappa$ B $\alpha$  in a phosphorylation and SCFB-TrCP dependent manner. In this particular reaction, E1 first transfers ubiquitin to the E2 component Ubc4, and Ubc4 then associates with E3 ligase, which conjugates the poly-ubiquitin chain on a target protein. In this fashion, the chain tags the I $\kappa$ B $\alpha$  for degradation by a proteasome thus lifting the inhibitory effect of I $\kappa$ B $\alpha$  on NF $\kappa$ B and allowing NF $\kappa$ B to enter the nucleus.

## REFERENCES

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- Liakopoulos, D., et al. 1998. A novel protein modification pathway related to the ubiquitin system. *EMBO J.* 17: 2208-2214.
- Gong, L., et al. 1999. Identification of the activating and conjugating enzymes of the NEDD8 conjugation pathway. *J. Biol. Chem.* 274: 12036-12042.
- Schwarz, S.E., et al. 1998. The ubiquitin-like proteins SMT3 and SUMO-1 are conjugated by the UBC9 E2 enzyme. *Proc. Natl. Acad. Sci. USA* 95: 560-564.
- Raboy, B., et al. 1999. Heat-induced cell cycle arrest of *Saccharomyces cerevisiae*: involvement of the RAD6/UBC2 and WSC2 genes in its reversal. *Mol. Microbiol.* 32: 729-739.
- Strack, P., et al. 2000. SCFB-TRCP and phosphorylation dependent ubiquitination of I $\kappa$ B $\alpha$  catalyzed by Ubc3 and Ubc4. *Oncogene* 19: 3529-3536.

## CHROMOSOMAL LOCATION

Genetic locus: UBE2G1 (human) mapping to 17p13.2; Ube2g1 (mouse) mapping to 11 B4.

## SOURCE

UBE2G1 (G-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of UBE2G1 of human origin.

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-109118 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

UBE2G1 (G-12) is recommended for detection of UBE2G1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

UBE2G1 (G-12) is also recommended for detection of UBE2G1 in additional species, including porcine.

Suitable for use as control antibody for UBE2G1 siRNA (h): sc-93745, UBE2G1 siRNA (m): sc-36772, UBE2G1 shRNA Plasmid (h): sc-93745-SH, UBE2G1 shRNA Plasmid (m): sc-36772-SH, UBE2G1 shRNA (h) Lentiviral Particles: sc-93745-V and UBE2G1 shRNA (m) Lentiviral Particles: sc-36772-V.

Molecular Weight of UBE2G1: 20 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## SELECT PRODUCT CITATIONS

- Haghikia, A., et al. 2011. Signal transducer and activator of transcription 3-mediated regulation of miR-199a-5p links cardiomyocyte and endothelial cell function in the heart: a key role for ubiquitin-conjugating enzymes. *Eur. Heart J.* 32: 1287-1297.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.



Try **UBE2G1 (H-2): sc-398969** or **UBE2G1 (G-832): sc-100619**, our highly recommended monoclonal alternatives to UBE2G1 (G-12).