

# G2E3 (C-16): sc-160340

## BACKGROUND

Ubiquitination is an important mechanism through which three classes of enzymes act in concert to target short-lived or abnormal proteins for destruction. The three classes of enzymes involved in ubiquitination are the ubiquitin-activating enzymes (E1s), the ubiquitin-conjugating enzymes (E2s) and the ubiquitin-protein ligases (E3s). G2E3 (G<sub>2</sub>/M phase-specific E3 ubiquitin-protein ligase), also known as KIAA1333, is a 706 amino acid protein that localizes to both the nucleus and the cytoplasm and contains one PHF-type zinc finger and one HECT domain. Expressed at high levels in kidney, brain, ovary, liver and testis, G2E3 functions as an E3 ubiquitin-protein ligase that can accept ubiquitin from an E2 ubiquitin-conjugating enzyme and can transfer that ubiquitin to specific substrates. Via its ability to accept and transfer ubiquitin, G2E3 is thought to play an important role in embryonic development and cell cycle regulation.

## REFERENCES

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2. Crawford, D.F. and Piwnicka-Worms, H. 2001. The G<sub>2</sub> DNA damage checkpoint delays expression of genes encoding mitotic regulators. J. Biol. Chem. 276: 37166-37177.
3. Brooks, W.S., Banerjee, S. and Crawford, D.F. 2007. G2E3 is a nucleocytoplasmic shuttling protein with DNA damage responsive localization. Exp. Cell Res. 313: 665-676.
4. Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 611299. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
5. Brooks, W.S., Helton, E.S., Banerjee, S., Venable, M., Johnson, L., Schoeb, T.R., Kesterson, R.A. and Crawford, D.F. 2008. G2E3 is a dual function ubiquitin ligase required for early embryonic development. J. Biol. Chem. 283: 22304-22315.

## CHROMOSOMAL LOCATION

Genetic locus: G2E3 (human) mapping to 14q12; G2e3 (mouse) mapping to 12 C1.

## SOURCE

G2E3 (C-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of G2E3 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-160340 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

G2E3 (C-16) is recommended for detection of G2E3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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).

G2E3 (C-16) is also recommended for detection of G2E3 in additional species, including equine and canine.

Suitable for use as control antibody for G2E3 siRNA (h): sc-92251, G2E3 siRNA (m): sc-145288, G2E3 shRNA Plasmid (h): sc-92251-SH, G2E3 shRNA Plasmid (m): sc-145288-SH, G2E3 shRNA (h) Lentiviral Particles: sc-92251-V and G2E3 shRNA (m) Lentiviral Particles: sc-145288-V.

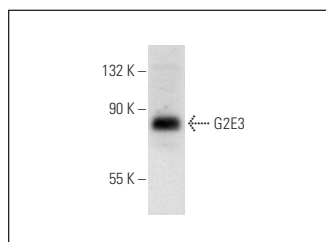
Molecular Weight of G2E3: 80 kDa.

Positive Controls: mouse brain extract: sc-2253.

## 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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

## DATA



G2E3 (C-16): sc-160340. Western blot analysis of G2E3 expression in mouse brain tissue extract.

## RESEARCH USE

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