

# UBE1 (2G2): sc-53555



The Power to Question

## BACKGROUND

The ubiquitin activating enzyme E1 (UBE1) catalyzes the first step in ubiquitin conjugation to mark cellular proteins for degradation. Specifically, UBE1 functions to adenylate the C-terminal glycine residue of ubiquitin, a reaction that is ATP-dependent and is preceded by the formation of a thiolester bond with a cysteine residue of UBE1. The UBE1-activated ubiquitin is then transferred to a ubiquitin conjugated enzyme, which donates the ubiquitin residue to target substrates. The UBE1 gene is an example of an X-Y homologous gene, which is X-linked with a distinct Y-linked gene in many mammals. However, no UBE1 homolog is detectable on the human Y chromosome. UBE1 is thought to escape X inactivation in humans.

## CHROMOSOMAL LOCATION

Genetic locus: UBA1 (human) mapping to Xp11.23; Uba1 (mouse) mapping to X A1.3.

## SOURCE

UBE1 (2G2) is a mouse monoclonal antibody raised against UBE1 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

UBE1 (2G2) is available conjugated to agarose (sc-53555 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-53555 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-53555 PE), fluorescein (sc-53555 FITC), Alexa Fluor® 488 (sc-53555 AF488), Alexa Fluor® 546 (sc-53555 AF546), Alexa Fluor® 594 (sc-53555 AF594) or Alexa Fluor® 647 (sc-53555 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-53555 AF680) or Alexa Fluor® 790 (sc-53555 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

UBE1 (2G2) is recommended for detection of UBE1 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for UBE1 siRNA (h): sc-61750, UBE1 siRNA (m): sc-61751, UBE1 shRNA Plasmid (h): sc-61750-SH, UBE1 shRNA Plasmid (m): sc-61751-SH, UBE1 shRNA (h) Lentiviral Particles: sc-61750-V and UBE1 shRNA (m) Lentiviral Particles: sc-61751-V.

Molecular Weight of UBE1: 110 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, K-562 whole cell lysate: sc-2203 or HeLa whole cell lysate: sc-2200.

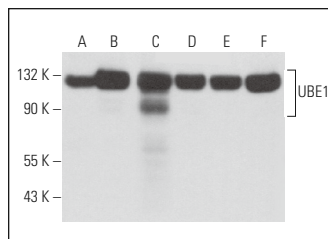
## STORAGE

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

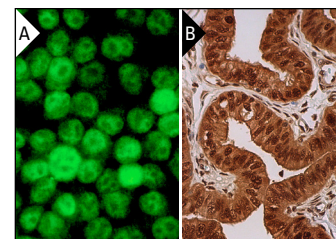
## RESEARCH USE

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

## DATA



UBE1 (2G2): sc-53555. Western blot analysis of UBE1 expression in IMR-32 nuclear extract (A) and MCF7 (B), HeLa (C), K-562 (D), U-698-M (E) and AN3CA (F) whole cell lysates.



UBE1 (2G2): sc-53555. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human fallopian tube tissue showing nuclear and cytoplasmic staining of glandular cells (B).

## SELECT PRODUCT CITATIONS

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- Ikeda, M., et al. 2020. UBE1a suppresses herpes simplex virus-1 replication. *Viruses* 12: 1391.
- Busonero, C., et al. 2020. Ouabain and digoxin activate the proteasome and the degradation of the ERα in cells modeling primary and metastatic breast cancer. *Cancers* 12: 3840.
- Ikeda, M., et al. 2021. Herpes simplex virus 1 infection induces ubiquitination of UBE1a. *Biochem. J.* 478: 261-279.
- Miyakawa, K., et al. 2022. Galectin-9 restricts hepatitis B virus replication via p62/SQSTM1-mediated selective autophagy of viral core proteins. *Nat. Commun.* 13: 531.
- Borgo, C., et al. 2022. Targeting the E1 ubiquitin-activating enzyme (UBA1) improves elexacaftor/tezacaftor/ivacaftor efficacy towards F508del and rare misfolded CFTR mutants. *Cell. Mol. Life Sci.* 79: 192.
- Han, X., et al. 2022. Selection of early pregnancy specific proteins and development a rapid immunochromatographic test strip in cows. *Theriogenology* 187: 127-134.
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## PROTOCOLS

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

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