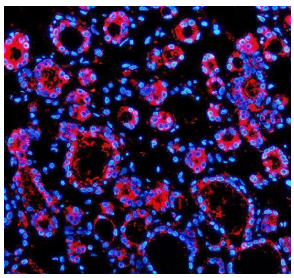
UFM1 Antibody / Ubiquitin-fold modifier 1 Antibody (FY13526)

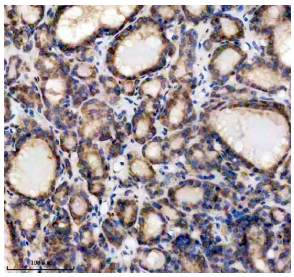
Catalog No.	Formulation	Size
FY13526	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

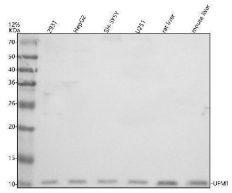
Species Reactivity	Human, Mouse, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	P61960
Applications	Western blot: 0.5-1ug/ml Immunohistochemistry (FFPE): 2-5ug/ml Immunofluorescence: 5ug/ml Flow cytometry: 1-3ug/million cells ELISA: 0.1-0.5 ug/ml
Limitations	Intended solely for research purposes, this UFM1 Antibody / Ubiquitin-fold modifier 1 Antibody is not for clinical use.



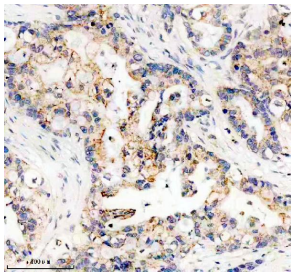
UFM1 Antibody by IF in human thyroid carcinoma tissue. Immunofluorescence staining of a formalin-fixed, paraffin-embedded human thyroid carcinoma section using Ubiquitin-fold modifier 1 Antibody reveals intense red fluorescence within epithelial cell groups surrounding glandular lumens. Blue DAPI nuclear counterstaining delineates the cellular architecture, while the red signal is predominantly extranuclear and varies among cells. Sections underwent heat-mediated antigen retrieval in EDTA buffer, pH 8.0, and incubation with primary antibody at 5 ug/mL overnight at 4oC. A Cy3-conjugated secondary antibody was used for detection. The image demonstrates UFM1-associated staining within the examined thyroid tumor tissue.



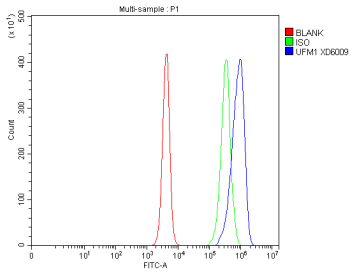
UFM1 Antibody by IHC in human thyroid carcinoma. Immunohistochemistry of formalin-fixed, paraffin-embedded human thyroid carcinoma using Ubiquitin-fold modifier 1 Antibody demonstrates brown immunoreactivity in gland-forming epithelial cells. Staining is evident in cytoplasmic regions around several glandular lumens, with variation in intensity between adjacent cells. Blue hematoxylin counterstaining outlines the nuclei and surrounding tissue. Antigen retrieval was performed in EDTA buffer, pH 8.0, followed by overnight incubation with primary antibody at 2 ug/mL at 4oC and HRP/DAB detection. The distinct glandular architecture allows localization of UFM1-associated signal within this tissue section.



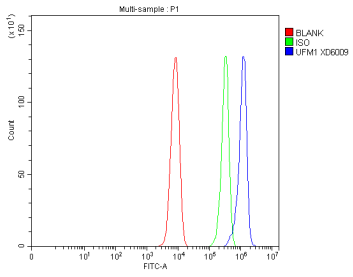
UFM1 Antibody by WB in human cell lines and rodent liver. Western blot analysis using Ubiquitin-fold modifier 1 Antibody detects a band near 10 kDa in human 293T (lane 1), HepG2 (lane 2), SH-SY5Y (lane 3), and U251 (lane 4) cell lysates, rat liver (lane 5), and mouse liver (lane 6). The observed migration agrees with the approximately 9-10 kDa predicted mass of unconjugated UFM1. Band intensity varies modestly across the samples, with additional faint higher-molecular-weight signals in some lanes. Reduced lysates containing 30 ug protein per lane were resolved on 12% SDS-PAGE; primary antibody was applied at 0.5 ug/mL overnight at 4oC before chemiluminescent detection.



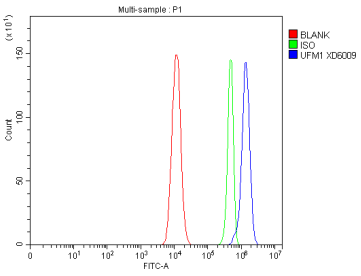
UFM1 Antibody by IHC in human pancreatic carcinoma. Immunohistochemistry of formalin-fixed, paraffin-embedded human pancreatic carcinoma using Ubiquitin-fold modifier 1 Antibody shows patchy brown staining in epithelial tumor cells, predominantly around the cytoplasm and cell borders. Areas of connective tissue and pale stroma exhibit comparatively little reaction product. Hematoxylin counterstaining provides blue nuclear contrast. Sections underwent heat-induced antigen retrieval in EDTA buffer, pH 8.0, followed by overnight incubation with primary antibody at 2 ug/mL at 4oC and HRP/DAB visualization. The heterogeneous distribution illustrates UFM1-associated immunoreactivity in the examined pancreatic tumor section.



UFM1 Antibody by FACS in mouse RM-1 cells. Intracellular flow cytometry using Ubiquitin-fold modifier 1 Antibody shows a blue fluorescence histogram shifted to the right of the green isotype-control distribution and red unstained control in RM-1 cells. Cells were fixed with 4% paraformaldehyde, permeabilized, and incubated with primary antibody at 1 ug per 1 x 10^6 cells for 30 minutes at 20oC. A fluorescent anti-rabbit secondary antibody was used for detection. The separation of the antibody-stained population from both controls indicates detectable intracellular UFM1-associated immunoreactivity in these mouse cells.



UFM1 Antibody by FACS in human HepG2 cells. Intracellular flow cytometry using Ubiquitin-fold modifier 1 Antibody demonstrates a rightward shift of the blue antibody-stained population relative to the green isotype-control and red blank-control histograms in HepG2 cells. Cells were fixed, permeabilized, blocked with goat serum, and incubated with primary antibody at 1 ug per 1 x 10^6 cells for 30 minutes at 20oC. Fluorescence was measured following incubation with a labeled anti-rabbit secondary antibody. The separated distributions demonstrate UFM1-associated staining above the controls in this human hepatocellular cell line.



UFM1 Antibody by FACS in rat RH35 cells. Intracellular flow cytometry using Ubiquitin-fold modifier 1 Antibody reveals a blue fluorescence peak to the right of the green isotype-control and red blank-control peaks in RH35 cells. Following fixation and permeabilization, cells were incubated with primary antibody at 1 ug per 1 x 10^6 cells for 30 minutes at 20oC and then stained with a fluorescent anti-rabbit secondary antibody. The antibody-positive histogram is distinguishable from the controls, supporting detection of intracellular UFM1-associated antigen in the examined rat cell population.

Description

UFM1 Antibody / Ubiquitin-fold modifier 1 Antibody detects UFM1, a small ubiquitin-like protein that participates in a specialized post-translational modification pathway known as UFMylation. Like ubiquitin, UFM1 is attached covalently to selected protein substrates through an enzymatic cascade, but its regulators and biological functions are distinct. The UFM1 precursor undergoes processing to expose a terminal glycine required for conjugation. The mature modifier is activated by UBA5, transferred to the conjugating enzyme UFC1, and attached to substrates with the assistance of the UFL1 ligase complex. This pathway provides an additional layer of control over protein behavior and cellular homeostasis.

UFMylation is particularly important for maintaining the function of the endoplasmic reticulum and for coordinating responses to disruptions in protein synthesis. Components of the pathway associate with ribosomes and the endoplasmic reticulum membrane, where they help cells manage problems involving nascent polypeptides and translocation. The ribosomal protein RPL26 is a characterized UFMylation substrate, connecting the pathway to quality control during translation at the endoplasmic reticulum. UFM1 modification can be reversed by specific proteases, allowing its effects to be regulated dynamically rather than permanently imposed.

Defects in UFM1 pathway components have been linked to developmental abnormalities, neurological disorders, and impaired tissue function. The consequences depend on the affected enzyme or substrate and the physiological demands of individual cells. Although UFM1 resembles ubiquitin structurally, it should not be treated as an interchangeable signal: the proteins use different conjugation machinery and govern partly different processes. Understanding this distinction is central to interpreting the role of UFMylation in cellular stress adaptation. NSJ Bioreagents provides the UFM1 Antibody in the context of this emerging regulatory pathway. A UFM1 Antibody is relevant to understanding the molecular functions and regulatory pathways associated with UFM1.

Explore related research targets in our Cell Biology Antibodies collection.

Application Notes

The optimal working dilution of the UFM1 Antibody / Ubiquitin-fold modifier 1 Antibody should be determined empirically by the investigator.

Immunogen

The UFM1 Antibody was generated using e. coli-derived human UFM1 recombinant protein (amino acids M1-C85).

Storage

Following reconstitution, the UFM1 Antibody can be kept at 4oC for one month. Aliquot for extended storage at -20oC for up to six months, avoiding repeated freezing and thawing.

Alternate Names

UFM1 antibody, Ubiquitin-fold modifier 1 antibody, ubiquitin fold modifier 1 antibody, C13orf20 antibody, BM-002 antibody, UFM1 rabbit polyclonal antibody

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