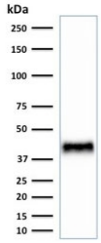
BMI1 Antibody / Polycomb Stem Cell Renewal Marker [clone BMI1/2823] (V8080)

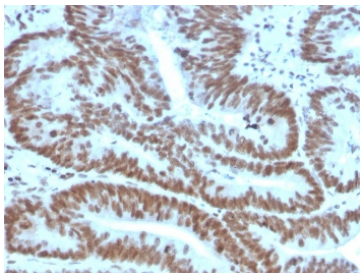
Catalog No.	Formulation	Size
V8080-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V8080-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V8080SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

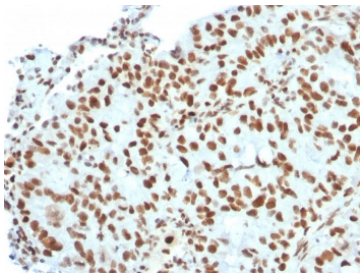
Availability	1-3 business days
Species Reactivity	Human, Mouse
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1, kappa
Clone Name	BMI1/2823
Purity	Protein G affinity chromatography
UniProt	P35226
Localization	Nuclear
Applications	Western blot: 1-2ug/ml Immunofluorescence: 1-2ug/ml Immunohistochemistry (FFPE): 1-2ug/ml
Limitations	This BMI1 Antibody / Polycomb Stem Cell Renewal Marker is available for research use only.



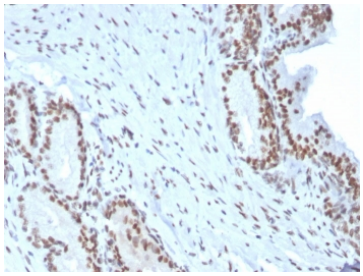
BMI1 Antibody NIH3T3 WB. Western blot analysis of mouse NIH3T3 cell lysate using BMI1 Antibody / Polycomb Stem Cell Renewal Marker. A distinct band is detected near 37-43 kDa, consistent with the predicted molecular weight range of BMI1. The observed expression pattern supports the chromatin-associated role of BMI1 in polycomb-mediated transcriptional repression, stem cell self-renewal signaling, and epigenetic regulation pathways involved in proliferative cell maintenance.



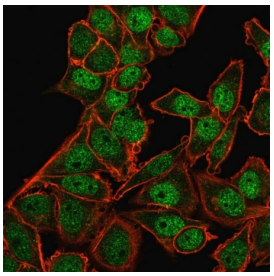
BMI1 Antibody Colon Carcinoma IHC. Immunohistochemistry analysis of FFPE human colon carcinoma tissue using BMI1 antibody clone BMI1/2823. Tumor epithelial cell nuclei demonstrate strong HRP-DAB brown staining consistent with the chromatin-associated localization of BMI1 in polycomb-mediated transcriptional repression, stem cell self-renewal signaling, and epigenetic regulatory pathways active in proliferative colorectal carcinoma tissue. Nuclei are counterstained blue. Heat-induced epitope retrieval was performed by boiling tissue sections in pH9 10 mM Tris with 1 mM EDTA for 20 minutes followed by cooling prior to staining.



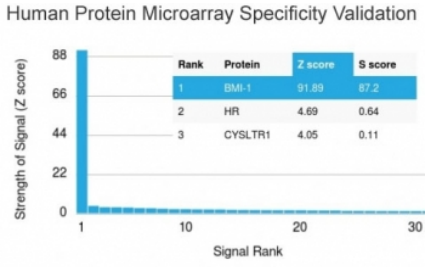
BMI1 Antibody Breast Carcinoma IHC. Immunohistochemistry analysis of FFPE human breast carcinoma tissue using BMI1 antibody clone BMI1/2823. Tumor cell nuclei demonstrate strong HRP-DAB brown staining consistent with the chromatin-associated role of BMI1 in polycomb complex-mediated transcriptional repression, stemness-associated self-renewal signaling, and epigenetic regulation pathways within proliferative breast carcinoma tissue. Nuclei are counterstained blue. Heat-induced epitope retrieval was performed by boiling tissue sections in pH9 10 mM Tris with 1 mM EDTA for 20 minutes followed by cooling prior to staining.



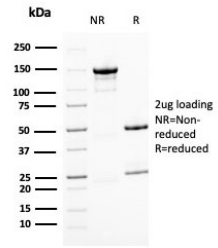
BMI1 Antibody Prostate Carcinoma IHC. Immunohistochemistry analysis of FFPE human prostate carcinoma tissue using BMI1 antibody clone BMI1/2823. Tumor epithelial cell nuclei demonstrate strong HRP-DAB brown staining consistent with the chromatin-associated localization of BMI1 in polycomb-mediated transcriptional repression, stem cell renewal signaling, and epigenetic regulatory pathways associated with proliferative prostate carcinoma tissue. Nuclei are counterstained blue. Heat-induced epitope retrieval was performed by boiling tissue sections in pH9 10 mM Tris with 1 mM EDTA for 20 minutes followed by cooling prior to staining.



BMI1 Antibody HeLa IF. Immunofluorescence analysis of PFA-fixed human HeLa cells using BMI1 antibody clone BMI1/2823. BMI1 staining (green) demonstrates prominent nuclear localization consistent with the chromatin-associated role of BMI1 in polycomb-mediated transcriptional repression, stem cell self-renewal signaling, and epigenetic regulation pathways. Phalloidin staining (red) highlights the actin cytoskeletal network and cellular morphology.



BMI1 Antibody Protein Microarray Validation. Analysis of a HuProt protein microarray containing more than 19,000 full-length human proteins using BMI1 antibody clone BMI1/2823. The antibody demonstrates highly selective recognition of BMI1 with a Z-score of 91.89 and an S-score of 87.2, supporting exceptionally strong target specificity for this polycomb-associated stem cell renewal regulator relative to other proteins represented on the array. R and CYSLTR1 were identified as substantially lower-ranking signals. Z-scores represent signal intensity above array background in standard deviation units, while S-scores reflect the specificity gap between the top-ranked target and subsequent proteins. An S-score greater than 2.5 is generally considered supportive of target-specific antibody recognition.



SDS-PAGE analysis of purified, BSA-free BMI1 antibody as confirmation of integrity and purity.

Description

BMI1 antibody recognizes BMI1 proto-oncogene protein, a chromatin-associated transcriptional repressor encoded by the BMI1 gene that functions as a core component of Polycomb Repressive Complex 1 (PRC1). BMI1 antibody, also referred to as B lymphoma Mo-MLV insertion region 1 antibody and PCGF4 antibody in the literature, is widely used in stem cell biology, epigenetic regulation, and cancer progression studies due to the central role of BMI1 in chromatin remodeling and transcriptional silencing. BMI1 is predominantly localized within the nucleus where it participates in maintenance of stem cell self-renewal, repression of differentiation-associated genes, and regulation of proliferative signaling pathways.

BMI1 is located on chromosome 10p12.2 and belongs to the polycomb group protein family involved in epigenetic gene silencing. The protein contains a conserved RING finger domain that contributes to PRC1-mediated ubiquitination of histone H2A and long-term transcriptional repression. Through interactions with RING1A, RING1B, CBX proteins, and other polycomb complex components, BMI1 regulates chromatin accessibility and suppresses transcription of target loci including the CDKN2A tumor suppressor region encoding p16INK4a and p14ARF. This repression contributes to cellular proliferation, stem cell maintenance, and resistance to senescence.

The BMI1 Antibody / Polycomb Stem Cell Renewal Marker format is especially relevant for investigations of stem cell renewal pathways, epigenetic regulation, and oncogenic signaling. BMI1 expression has been strongly associated with normal tissue stem cell populations as well as cancer stem cell phenotypes in leukemia, breast cancer, prostate cancer, colorectal cancer, glioblastoma, and multiple additional malignancies. Elevated BMI1 activity contributes to enhanced self-renewal capacity, resistance to apoptosis, epithelial-mesenchymal transition, and aggressive tumor progression in several cancer models.

BMI1 also functions in DNA damage-response signaling, oxidative stress adaptation, mitochondrial regulation, and maintenance of genomic integrity in proliferative cell populations. In neural stem cells and hematopoietic stem cells, BMI1 is required for long-term self-renewal and tissue regenerative capacity. Loss of BMI1 expression can result in impaired stem cell maintenance, premature senescence, and reduced proliferative potential due to derepression of cyclin-dependent kinase inhibitor pathways.

Because BMI1 participates in chromatin compaction and stable transcriptional repression, it has become an important biomarker in studies examining epigenetic plasticity, tumor progression, and stemness-associated signaling pathways. BMI1 expression patterns are frequently evaluated in cancer tissue to investigate aggressive tumor phenotypes, therapeutic resistance mechanisms, and proliferative compartment organization.

Clone BMI1/2823 is useful for investigating nuclear BMI1 expression in stem cell-associated tissue compartments, epigenetic regulatory pathways, and cancer biology applications. HuProt protein microarray specificity validation further supports selective target recognition for BMI1, making this antibody valuable for studies of chromatin-associated transcriptional repression, self-renewal signaling, and polycomb-mediated epigenetic control mechanisms.

BMI1 is part of a broader network of self-renewal and progenitor-associated proteins featured in our Stem Cell Marker Antibodies collection supporting stemness, epigenetic regulation, and cancer stem cell research.

Application Notes

Optimal dilution of the BMI1 Antibody / Polycomb Stem Cell Renewal Marker should be determined by the researcher.

Immunogen

A recombinant human partial protein (amino acids 142-326) was used as the immunogen for this BMI1 antibody.

Storage

Store the BMI1 antibody at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).

Alternate Names

BMI1 polycomb antibody, B lymphoma Mo-MLV insertion region 1 antibody, PCGF4 antibody, BMI1 stem cell marker antibody, BMI1 cancer stem cell antibody, polycomb group protein BMI1 antibody

Copyright © NSJ Bioreagents. All rights reserved.