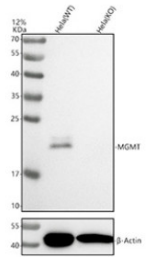
MGMT Antibody IDD-13 / O6-Methylguanine DNA Methyltransferase Antibody [clone IDD-13] (FY13700)

Catalog No.	Formulation	Size
FY13700	Rabbit IgG in stabilizing components, phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol	100 ul

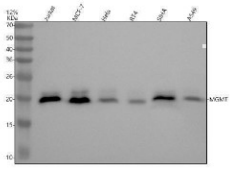
Recombinant RABBIT MONOCLONAL

Bulk quote request

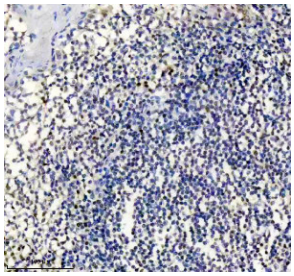
Species Reactivity	Human
Format	Liquid
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	IDD-13
Purity	Affinity purified
UniProt	P08174
Applications	Western blot: 1:500 Immunohistochemistry (FFPE): 1:50
Limitations	This MGMT Antibody IDD-13 / O6-Methylguanine DNA Methyltransferase Antibody is available for research use only.



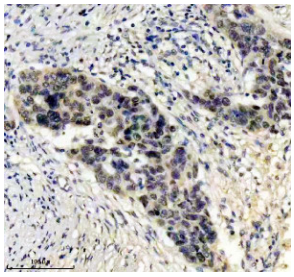
MGMT Antibody IDD-13 WB Analysis of HeLa WT and MGMT KO Cells. Western blot analysis of wild-type (WT) and MGMT-knockout (KO) HeLa cell lysates using O6-Methylguanine DNA Methyltransferase Antibody clone IDD-13. A distinct MGMT band is detected at approximately 22 kDa in WT lysate but is absent in the KO sample, demonstrating MGMT-dependent detection under the tested conditions. Beta-actin bands are present in both lanes as loading controls, supporting the specificity of the MGMT signal.



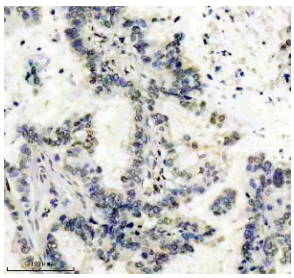
MGMT Antibody IDD-13 WB Analysis of Human Cell Lines. Western blot analysis of Jurkat, MCF-7, HeLa, RT4, SiHa, and A549 whole-cell lysates using O6-Methylguanine DNA Methyltransferase Antibody clone IDD-13. Immunoreactive bands are detected at approximately 22 kDa, consistent with the calculated MGMT molecular weight of 21.6 kDa. Stronger signals are observed in Jurkat, MCF-7, and SiHa lysates, while HeLa, RT4, and A549 show comparatively weaker bands.



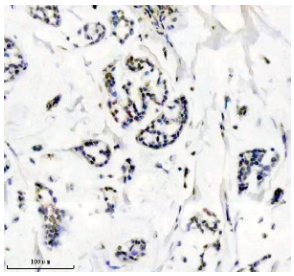
MGMT Antibody IDD-13 IHC Staining of Human Tonsil Tissue. Immunohistochemical analysis of paraffin-embedded human tonsil tissue using O6-Methylguanine DNA Methyltransferase Antibody clone IDD-13 at a 1:50 dilution. Scattered brown DAB-positive cells are visible within the lymphoid tissue, with predominantly weak immunoreactivity across the section. Hematoxylin counterstaining reveals the densely populated lymphoid architecture.



MGMT Antibody IDD-13 IHC Staining of Human Ovarian Cancer Tissue. Immunohistochemical analysis of paraffin-embedded human ovarian cancer tissue using O6-Methylguanine DNA Methyltransferase Antibody clone IDD-13 at a 1:50 dilution. Brown DAB immunoreactivity is observed in clusters of tumor cells, with variable staining intensity and prominent nuclear-associated labeling in portions of the tissue. Hematoxylin provides nuclear counterstaining.



MGMT Antibody IDD-13 IHC Staining of Human Lung Cancer Tissue. Immunohistochemical analysis of paraffin-embedded human lung cancer tissue using O6-Methylguanine DNA Methyltransferase Antibody clone IDD-13 at a 1:50 dilution. Heterogeneous brown DAB staining is observed among tumor cells, including focal nuclear-associated immunoreactivity. Hematoxylin counterstaining highlights the surrounding tissue architecture.



MGMT Antibody IDD-13 IHC Staining of Human Breast Cancer Tissue. Immunohistochemical analysis of paraffin-embedded human breast cancer tissue using O6-Methylguanine DNA Methyltransferase Antibody clone IDD-13 at a 1:50 dilution. Scattered brown DAB immunoreactivity is observed among tumor cells, with predominantly weak staining and focal areas of greater intensity. Hematoxylin counterstaining identifies the tissue architecture and cell nuclei.

Description

MGMT Antibody IDD-13 / O6-Methylguanine DNA Methyltransferase Antibody recognizes MGMT, a DNA repair enzyme that protects genomic integrity by directly reversing alkylation damage at the O6 position of guanine. Also known as O6-alkylguanine DNA alkyltransferase (AGT), MGMT transfers alkyl groups from damaged DNA to a conserved cysteine residue within its active site. This reaction restores the original guanine base without requiring nucleotide excision or replacement. Because each repair event irreversibly inactivates one MGMT molecule, the enzyme is classified as a suicide DNA repair protein and must be replenished through new protein synthesis.

MGMT plays a critical role in cellular resistance to alkylating agents, including the chemotherapy drug temozolomide. By removing O6-methylguanine lesions before they trigger mismatch repair-dependent cytotoxic responses, MGMT can protect tumor cells from treatment-induced DNA damage. Elevated MGMT expression is associated with resistance to alkylating chemotherapy, particularly in glioblastoma and other malignancies. Conversely, reduced MGMT activity can increase cellular sensitivity to these agents, making the enzyme an important focus of cancer biology and therapeutic research.

MGMT expression is regulated through transcriptional and epigenetic mechanisms, including methylation of CpG sites

within its promoter region. MGMT promoter hypermethylation is frequently associated with transcriptional silencing and reduced protein expression. In glioblastoma, promoter methylation has clinical significance as a predictive biomarker for responsiveness to temozolomide-based treatment. However, promoter methylation status and MGMT protein abundance do not always correlate directly, reflecting additional influences from tumor heterogeneity, transcriptional regulation, and protein turnover. These distinctions highlight the importance of investigating MGMT at multiple levels of biological regulation.

MGMT is predominantly localized to the nucleus, where it protects DNA from mutagenic alkylation damage. Its expression varies among normal tissues and tumors, influencing cellular repair capacity and susceptibility to genotoxic stress. MGMT Antibody IDD-13 provides a means of examining MGMT protein expression in studies of DNA repair, tumor biology, and chemotherapy resistance, supporting investigations into the mechanisms that determine cellular responses to alkylating agents.

Additional Cell Biology Antibodies are available for investigating DNA damage responses, genome maintenance, and cellular repair mechanisms.

Application Notes

Optimal dilution of the MGMT Antibody IDD-13 / O6-Methylguanine DNA Methyltransferase Antibody should be determined by the researcher.

Immunogen

A synthesized peptide derived from human Methylated-DNA--protein-cysteine methyltransferase protein was used as the immunogen for the MGMT Antibody IDD-13.

Storage

The MGMT Antibody IDD-13 can be stored at -20oC.

Alternate Names

O6-methylguanine DNA methyltransferase antibody, O6-alkylguanine DNA alkyltransferase antibody, DNA repair methyltransferase antibody, O6-methylguanine repair protein antibody, AGT antibody

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