Technical Data Sheet

Purified Mouse Anti-Human MGMT

Product Information

Material Number:
Alternate Name:
Size:
Concentration:
Clone:
Isotype:
Reactivity:
Target MW:
Storage Buffer:

557045 Methylguanine-DNA Methyltransferase 0.1 mg 0.5 mg/ml MT5.1 Mouse IgG1, κ QC Testing: Human 21-25 kDa Aqueous buffered solution containing protein stabilizer and ≤0.09% sodium azide.

Description

The repair of mismatched DNA is essential to maintaining the integrity of genetic information over time. The important role played by DNA repair enzymes is emphasized by the fact that they are highly conserved from bacteria to yeast to mammals. In bacteria, DNA repair involves the activity of repair enzymes including the MutL, MutH, and MutS proteins, as well as an enzyme originally identified in bacteria, and subsequently in all mammalian species, MGMT (methylguanine-DNA methyltransferase). Human MGMT is a 21 kDa protein which protects cells from the mutagenic effect of alkylating agents, which add a methyl group to the O6 position of guanine in DNA, producing O6-methylguanine. While MGMT is generally ubiquitously expressed in mammalian cells, the expression levels within cell and tissue types can be quite variable. Certain tumor cell types have been identified which express neither MGMT protein or mRNA, despite the apparent normal expression of the MGMT gene. The variable expression of MGMT may be a factor in the susceptibility of cells and tissues to the mutagenic effects of alkylating agents. It has been suggested that methylation of cytosine in the MGMT gene and promoter region may correlate with the expression of the MGMT gene product.



Immunoprecipitation (IP) and Western Blot analysis (WB) of MGMT in MOLT-4 cells (Left Panel). MOLT-4 (Human T-lymphoblasts; ATCC CRL-1582) cell lysates were immunoprecipitated with the Mouse Anti-Human MGMT antibody (lane 1) or with an isotype control (lane 2). MGMT is identified as an ~25 kD band. The bands above the 25 kD MGMT band represent the heavy and light chains of the immunoprecipitating antibody. Western blot analysis of MGMT in MOLT-4 cell lysates probed with the Mouse Anti-Human MGMT antibody (lane 3) or an isotype control (lane 4). Immunocytochemistry for MGMT (Middle and Right Panels). Cytospins of HeLa cells (Human cervical epitheloid carcinoma; ATCC CCL-2) were acetone-fixed and stained with the purified Mouse Anti-Human MGMT antibody (middle panel) or with an isotype control (right panel). MGMT staining is localized to the nucleus of the cells.

Preparation and Storage

Store undiluted at 4°C.

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

Application Notes

lication	

Western blot	Routinely Tested
Immunocytochemistry (cytospins)	Tested During Development
Immunoprecipitation	Tested During Development
Intracellular staining (flow cytometry)	Tested During Development

BD Biosciences

bdbiosciences.com

bublosciences.	.om				
United States	Canada	Europe	Japan	Asia Pacific	Latin America/Caribbean
877.232.8995	800.268.5430	32.2.400.98.95	0120.8555.90	65.6861.0633	55.11.5185.9995
For country cor	ntact informatio	on, visit bdbiosci	ences.com/contac	t	
of any patents. BL use of our produc product or as a co written authoriza For Research Use (D Biosciences will n ts. Purchase does n mponent of anoth tion of Becton, Dic Only. Not for use ir	ot be held responsil ot include or carry a er product. Any use kinson and Compan diagnostic or thera	ble for patent infring any right to resell or of this product othe y is stictly prohibited apeutic procedures. N	ement or other vio. transfer this produc r than the permitte I. lot for resale.	the above product in violation lations that may occur with the t either as a stand-alone d use without the express n and Company. © 2014 BD

Suggested Companion Products

Catalog Number	Name	Size	Clone
554002	HRP Goat Anti-Mouse Ig	1.0 ml	(none)

Product Notices

- 1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
- 2. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.
- 3. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
- 4. An isotype control should be used at the same concentration as the antibody of interest.

References

Ayi TC, Loh KC, Ali RB, Li BF. Intracellular localization of human DNA repair enzyme methylguanine-DNA methyltransferase by antibodies and its importance. Cancer Res. 1992; 52(23):6423-6430. (Biology)

Fornace AJ Jr, Papathanasiou MA, Hollander MC, Yarosh DB. Expression of the O6-methylguanine-DNA methyltransferase gene MGMT in MER+ and MERhuman tumor cells. Cancer Res. 1990; 50(24):7908-7911. (Biology)

Gerson SL, Trey JE, Miller K, Berger NA. Comparison of O6-alkylguanine-DNA alkyltransferase activity based on cellular DNA content in human, rat and mouse tissues. Carcinogenesis. 1986; 7(5):745-749. (Biology)

von Wronski MA, Brent TP. Effect of 5-azacytidine on expression of the human DNA repair enzyme O6-methylguanine-DNA methyltransferase. Carcinogenesis. 1994; 15(4):577-582. (Biology)

Woodhead AD, Grist E, Carlson C, White TE, Waldstein E, Cao EH, Presence of O6-methyloganine acceptor protein in the tissues of different classes of vertebrates and invertebrates. Comp Biochem Physiol B Biochem Mol Biol. 1986; 85(1):125-130. (Biology)

BD Biosciences

bdbiosciences.com United States Canada

 Canada
 Europe
 Japan

 800.268.5430
 32.2.400.98.95
 0120.8555.90
Asia Pacific 65.6861.0633 877.232.8995 For country contact information, visit bdbiosciences.com/contact

Conditions: The information disclosed herein is not to be construed as a recommendation to use the above product in violation of any patents. BD Biosciences will not be held responsible for patent infringement or other violations that may occur with the use of our products. Purchase does not include or carry any right to resell or transfer this product either as a stand-alone product or as a component of another product. Any use of this product other than the permitted use without the express written authorization of Becton, Dickinson and Company is stictly prohibited. For Research Use Only. Not for use in diagnostic or therapeutic procedures. Not for resale. Unless otherwise noted, BD, BD Logo and all other trademarks are property of Becton, Dickinson and Company. © 2014 BD

Latin America/Caribbean

55.11.5185.9995

