

**Mouse Anti-MGMT [MT3.1]: MC0549, MC0549RTU7**

**Intended Use:** For Research Use Only

**Description:** MGMT (O6-methylguanine-DNA methyltransferase) is transcriptionally activated in response to DNA damage and functions to repair mutagenic and cytotoxic O6-alkylguanine lesions caused by carcinogens or cytostatic drugs. MGMT induction by ionizing radiation does not occur in p53-deficient mice, suggesting that MGMT induction may require p53. Similarly, MGMT mRNA and protein were shown to be inducible by ionising radiation, only in cell lines that express functional p53, and not in cell lines that do not express wild type p53. In contrast, high MGMT activity was associated with the presence of mutant p53, in a study of oral cancer cell lines. Similarly, MGMT activity was significantly lower in ovarian tumors with wildtype p53 than in tumors with mutant p53, supporting the view that wildtype p53 down-regulates the basal MGMT promoter.

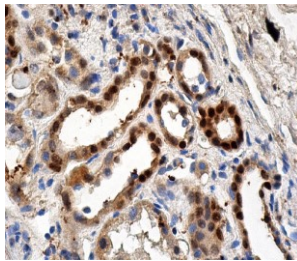
**Specifications**

Clone: MT3.1  
 Source: Mouse  
 Isotype: IgG1  
 Reactivity: Human, mouse, rat  
 Localization: Nucleus, cytoplasm  
 Formulation: Antibody in PBS 7.4, containing BSA and ≤ 0.09% sodium azide (NaN3)  
 Storage: Store at 2°- 8°C  
 Applications: IHC, Flow Cyt., ICC/IF, IP, WB  
 Package:

Description	Catalog No.	Size
MGMT Concentrated	MC0549	1 ml
MGMT Prediluted	MC0549RTU7	7 ml

**IHC Procedure\***

Positive Control Tissue: Tonsil  
 Concentrated Dilution: 50-200  
 Pretreatment: Citrate pH 6.0 or EDTA pH 8.0, 15 minutes using Pressure Cooker, or 30-60 minutes using water bath at 95°-99°C  
 Incubation Time and Temp: 30-60 minutes @ RT  
 Detection: Refer to the detection system manual  
 \* Result should be confirmed by an established diagnostic procedure.



Human kidney FFPE tissue stained with anti-MGMT using DAB

**References:**

1. Long-Term Outcome and MGMT as a Predictive Marker in 24 Patients With Atypical Pituitary Adenomas and Pituitary Carcinomas Given Treatment With Temozolomide. Bengtsson D, et al. J Clin Endocrinol Metab. Apr;100(4):1689-98, 2015.
2. Immunohistochemical evaluation of O6 -methylguanine DNA methyltransferase (MGMT) expression in 117 cases of glioblastoma. Miyazaki M, et al. Neuropathology. Jun;34(3):268-76, 2014.
3. Comprehensive analysis of MGMT promoter methylation: correlation with MGMT expression and clinical response in GBM. Shah, N. et al. PLoS ONE. 6, 2011.