

BM6047P**Monoclonal Antibody to Mitotic Cells - Purified**

Quantity:	0.1 mg
Concentration:	1.0 mg/ml
Background:	<p>The life cycle of a eukaryotic cell consists of various phases, two of which can morphologically and biochemically be identified. Firstly, during mitosis (M-phase), in which the cell divides into two identical daughter cells, chromosome condensation and spindle formation are microscopically visible. Secondly, in S-phase the DNA of a cell is replicated, a process that can be detected using biochemical techniques, such as the BrdU incorporation assay. In between the M- and S-phase two gap phases occur: the G1-phase, the gap between mitosis and the start of DNA replication, and G2-phase, the gap between completion of DNA replication and the onset of mitosis. From G1-phase a cell can leave the cell cycle and enter G0, a 'quiescent' phase. Regulation of the cell cycle predominantly occurs at three major control points, which govern the transition from G0 to G1, from G1 to S, and from G2 to M-phase. M phase itself is highly regulated, and is divided into five stages: prophase, prometaphase, metaphase, telophase and anaphase.</p>
Host / Isotype:	Mouse / IgM
Recommended Isotype Controls:	SM13P
Clone:	8B3G
Immunogen:	Total cell lysate of the Human bladder carcinoma cell line T24.
Format:	State: Liquid purified IgG fraction Purification: Immunoaffinity Chromatography Buffer System: PBS Preservatives: 0.09% Sodium Azide
Applications:	Flow Cytometry: 1/50-1/100. Immunohistochemistry on Frozen Sections. Immunocytochemistry: 1/50-1/100 with avidin-biotinylated horseradish peroxidase complex (ABC) as detection reagent. Using immunocytochemistry, a combination of this antibody and BrdU (Cat.-No BM6048P) can distinguish and quantitate the four major fractions of the cell cycle. Not suitable for Immunoblotting. Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.
Specificity:	This antibody detects Mitotic cells in Human samples. 8B3G strongly stains mitotic cells and can therefore be used in Flow Cytometric analyses of cell suspensions to detect the mitotic index. Together with a quantitative DNA staining procedure (e.g. propidium iodide) 8B3G clearly distinguishes these M-phase cells from cell at other stages of the cell cycle. Dynamic information can be obtained by combining BrdU incorporation with 8B3G staining, which can distinguish and quantitate the four major fractions of the cell

cycle.

Species Reactivity: **Tested:** Human, Zebrafish.

Storage: Store undiluted at 2-8°C for one month or (in aliquots) at -20°C for longer.
Avoid repeated freeze-thaw cycles.
Shelf life: One year from despatch.

General Readings: 1. Delobel P, Lavenir I, Ghetti B, Holzer M, Goedert M. Cell-cycle markers in a transgenic mouse model of human tauopathy: increased levels of cyclin-dependent kinase inhibitors p21Cip1 and p27Kip1. *Am J Pathol.* 2006 Mar;168(3):878-87. PubMed PMID: 16507903.

Pictures: BM6047P staining a membrane-associated compound in proliferating (all) cells in tissue sections of 9 day old Zebrafish embryos by Immunohistochemistry (Frozen sections). Samples were frozen sections fixed in Acetone:Methanol 1/1. BM6047P used at 1/50 dilution and incubated for 45 minutes at room temperature.

