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30-1857: Biotin Conjugated, Anti-alpha-tubulin Monoclonal Antibody (Clone:TU-01)

Clonality :	Monoclonal
Clone Name :	TU-01
Application :	WB
Reactivity :	Broad species reactivity
Conjugate :	Biotin
Isotype :	Mouse IgG1
Immunogen Information :	Fraction of tubulin purified from porcine brain by two cycles of polymerization - depolymerization.

Description

The microtubules are intracellular dynamic polymers made up of evolutionarily conserved polymorphic alpha/beta-tubulin heterodimers and a large number of microtubule-associated proteins (MAPs). The microtubules consist of 13 protofilaments and have an outer diameter 25 nm. Microtubules have their intrinsic polarity; highly dynamic plus ends and less dynamic minus ends. Microtubules are required for vital processes in eukaryotic cells including mitosis, meiosis, maintenance of cell shape and intracellular transport. Microtubules are also necessary for movement of cells by means of flagella and cilia. In mammalian tissue culture cells microtubules have their minus ends anchored in microtubule organizing centers (MTOCs).The GTP (guanosintriphosphate) molecule is an essential for tubulin heterodimer to associate with other heterodimers to form microtubule. In vivo, microtubule dynamics vary considerably. Microtubule polymerization is reversible and a populations of microtubules in cells are on their minus ends either growing or shortening - this phenomenon is called dynamic instability of microtubules. On a practical level, microtubules can easily be stabilized by the addition of non-hydrolysable analogues of GTP (eg. GMPPCP) or more commonly by anti-cancer drugs such as Taxol. Taxol stabilizes microtubules at room temperature for many hours. Using limited proteolysis by enzymes both tubulin subunits can be divided into N-terminal and C-terminal structural domains. The alpha-tubulin (relative molecular weight around 50 kDa) is globular protein that exists in cells as part of soluble alpha/beta-tubulin dimer or it is polymerized into microtubules. In different species it is coded by multiple tubulin genes that form tubulin classes (in human 6 genes). Expressed tubulin genes are named tubulin isotypes. Some of the tubulin isotypes are expressed ubiquitously, while some have more restricted tissue expression.Alpha-tubulin is also subject of numerous post-translational modifications. Tubulin isotypes and their posttranslational modifications are responsible for multiple tubulin charge variants - tubulin isoforms. Heterogeneity of alpha-tubulin is concentrated in C-terminal structural domain.

Product Info

Amount :	0.1 mg
Storage condition :	Store at 2-8°C. Do not freeze.

Application Note

Western blotting: Recommended dilution: 1-2 µg/ml, reducing conditions.
Flow cytometry: Recommended dilution: 8-12 µg/ml. Intracellular staining.

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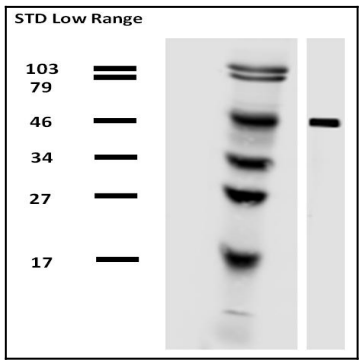


Figure 1: Western blotting analysis of alpha-tubulin in porcine brain lysate by antibody TU-01 biotin.

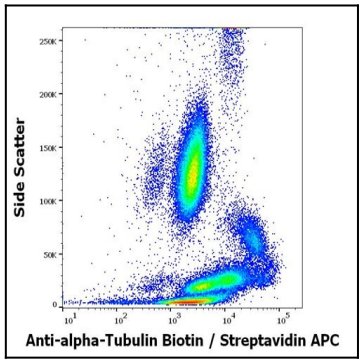


Figure 2: Flow cytometry intracellular staining pattern of human peripheral whole blood stained using anti-alpha-tubulin (TU-01) Biotin antibody (concentration in sample 8 µg/ml, Streptavidin APC).

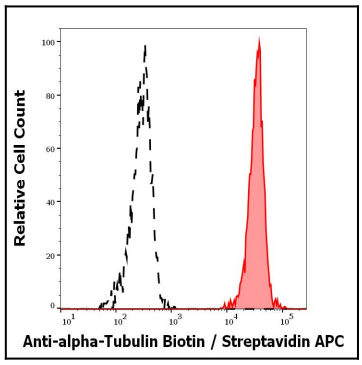


Figure 3: Separation of human monocytes stained using anti-alpha-tubulin (TU-01) Biotin antibody (concentration in sample 8 µg/ml, Streptavidin APC, red-filled) from monocytes stained using mouse IgG1 isotype control (MOPC-21) Biotin antibody (concentration in sample 8 µg/ml, same as alpha-tubulin Biotin, Streptavidin APC, black-dashed) in flow cytometry analysis (intracellular staining).

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