Monoclonal Anti-Acetylated Tubulin antibody
produced in mouse, clone 6-11B-1, purified from
hybridoma cell culture

Catalog Number T7451

Product Description
Monoclonal Anti-Acetylated Tubulin (mouse IgG2b
isotype) is derived from the hybridoma 6-11B-1
produced by the fusion of mouse myeloma cells and
splenocytes from a mouse immunized with acetylated
tubulin from the outer arm of Strongylocentrotus
purpuratus (sea urchin). The isotype is determined using
a double diffusion immunoassay using Mouse
Monoclonal Antibody Isotyping Reagents, Catalog
Number ISO2.

Monoclonal Anti-Acetylated Tubulin recognizes an
epitope located on the α3 isoform of Chlamydomonas
axonemal α-tubulin, within four residues of Lys when
this amino acid is acetylated. A sequence very similar
to the one detected by the antibody in Chlamydomonas
is found in the majority of α-tubulins, but the
corresponding region is markedly divergent in some
α-tubulin isoforms from chicken, Drosophila, and
yeast. The antibody has been used to detect
acetylated α-tubulins from many organisms that are
frequently studied in the laboratory: protista, plants,
invertebrates, and vertebrates (e.g., human, mouse,
pig, bovine, rat, hamster, monkey, chicken, frog). Details on the strains of organisms and microtubule
structures containing acetylated α-tubulin detected by
the antibody have been described. Occasionally, the
epitope recognized by the antibody may be absent or
masked, as it is in the rat kangaroo epithelial-like cell
line PtK2. The antibody may be used in
immunoblotting, quantitative dot blot, ELISA, solid
phase RIA, immunohistology, and electron
microscopy.

Tubulin is the major building block of microtubules. This
intracellular, cylindrical filamentous structure is present
in almost all eukaryotic cells. Microtubules function as
structural and mobile elements in mitosis, intracellular
transport, flagellar movement and in the cytoskeleton.
Tubulin is a heterodimer, which consists of α-tubulin
and β-tubulin; both subunits have a molecular weight of
50,000 and share considerable homology. At least
three modifications of tubulin subunits have been
described: the phosphorylation of β-tubulin from brain,
the removal of the carboxyterminal tyrosine from
α-tubulin in vertebrate tissues and the acetylation of
the amino group of lysine(s) in α-tubulin.

Acetylation of α-tubulin is a post-translational
modification that consists of the reversible addition of
an acetyl group to Lys, achieved by a specific
acetylase. Acetylation of α-tubulin is an important
feature of axoneme assembly in a variety of organisms.
Tubulin acetylation may play a prevalent role in the
differentiation of microtubule structure and function.

Monoclonal antibody recognizing the acetylated form of
tubulin, together with monoclonal antibodies to other
types of tubulins (α, β, β-tubulin isotype I + II, β-tubulin
isotype III, and tyrosine tubulin) provide specific and
useful tools in studying the intracellular distribution of
tubulin and the static and dynamic aspects of
cytoskeleton.

Reagent
Supplied as a solution in 0.01 M phosphate buffered
saline, pH 7.4, containing 15 mM sodium azide.
Antibody concentration: ~1 mg/mL

Precautions and Disclaimer
This product is for R&D use only, not for drug,
household, or other uses. Please consult the Material
Safety Data Sheet for information regarding hazards
and safe handling practices.

Storage/Stability
For continuous use, store at 2-8 °C for up to one month.
For extended storage, freeze in working aliquots.
Repeated freezing and thawing, or storage in "frost-
free" freezers, is not recommended. If slight turbidity
occurs upon prolonged storage, clarify the solution by
centrifugation before use. Working dilution samples
should be discarded if not used within 12 hours.

Product Profile
Immunoblotting: a working antibody concentration of
0.03-0.06 mg/mL is recommended using total rat brain
extract.
Note: In order to obtain the best results using various techniques and preparations, we recommend determining optimal working dilutions by titration.

References