

Tubulin Antibodies and protein control

Cat. # TUBL15-S	Rabbit Anti-Tubulin protein antiserum # 1	SIZE: 100 ul
Cat. # TUBL15-C	Purified bovine brain Tubulin protein control for Western	SIZE: 100 ul

Microtubules are filamentous structures that serve in a variety of cellular functions including cell mobility, intracellular transport, and cell division. Microtubules are heterodimers of 2 major proteins, alpha- and beta-tubulins (55 kda). The amino acid sequence of the tubulins is highly conserved evolutionarily. beta-tubulin gene family consists of 15 to 20 dispersed genes, many of which are processed pseudogenes. Within a vertebrate species, the genes are distinguished by their C-terminal region. The amino acid sequence differences show varying degrees of conservation across species, depending on the isotype. It binds two moles of GTP, one at an exchangeable site on the beta chain and one at a non-exchangeable site on the alpha-chain. The highly acidic C-terminal region may bind cations such as calcium. The tubulin superfamily includes five distinct families, the alpha-, beta-, gamma-, delta-, and epsilon-tubulins and a sixth family (zeta-tubulin) which is present only in kinetoplastid protozoa.

Alpha and beta-tubulin Undergoes a tyrosination/detyrosination cycle, the cyclic removal and re-addition of a C-terminal tyrosine residue by the enzymes tubulin tyrosine carboxypeptidase (TTCP) and tubulin tyrosine ligase (TTL), respectively. Gamma-tubulin is a ubiquitous phylogenetically Gamma is a low abundance protein present within the cells in both various types of microtubule-organizing centers and cytoplasmic protein complexes. It Interacts with GCP2 and GCP3. Delta-tubulin is associated with the manchette in the elongating spermatid, a specialized microtubule system present during reshaping of the sperm head. It is localized to Centrosome. Centriole. Cytoplasm. Nucleus. it is cytoplasmic and nuclear. Epsilon-tubulin-epsilon is associated with pericentriolar material.

Tubulin, isolated from bovine brain tissue, is a mixture if undefined isotypes. it is highly homologous to tubulin isolated from other eukaryotic sources. Tubulin polymerizes to form structures called microtubules (MTs).

Source of Antigen and Antibodies

Antigen	Purified (>95%) tubulin from bovine brain (# TUBL16-N-100) was modified using proprietary methods to enhance antigenicity and used as antigen
Ab Host/type	Rabbit, Polyclonal unpurified antiserum # TUBL15-S
2-Ab	Goat Anti-rabbit IgG-HRP cat # 20320 (AP, biotin, FITC conjugates also available)
-ve	Cat # 20009-1, Rabbit (non-immune) Serum IgG, purified, suitable for ELISA, Western, IHC as -ve control

Bovine brain tubulin was purified (>95%) (cat # TUBL16-N-100) and used for control. For Western blot +ve control (**Cat # TUBL15-C**) is supplied in SDS-PAGE sample buffer (reduced). Load 10 ul/lane of **TUBL15-C** for good visibility with antibody Cat

TUBL15-S or other antibodies. Store at -20oC in suitable size aliquots. SDS may crystallize in cold conditions. It should redissolve by warming before taking it from the stock. It should be heated once prior to loading on gels. If the product has been stored for several weeks, then it may be preferable to add 5 ul of fresh 2x sample buffer per 10 ul of the **TUBL15-C** solution prior to heating and loading on gels. This preparation is not biologically active. It is not suitable for ELISA or other applications where native protein is required. Do not freeze, thaw, or heat repeatedly

Form & Storage of Antibodies/Peptide Control

Antiserum (unpurified)
 100ul solution lyophilized powder
 Supplied in Buffer: 0.05% azide
Reconstitute powder in 100 ul PBS

Storage
Short-term: unopened, undiluted liquid vials at -20OC and powder at 4oC or -20oC..
Long-term: at -20C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at -20oC or below.

Recommended Usage

Western Blotting (1:500-:1:2K) using ECL technique. tubulin ~55 kDa.

ELISA: Control peptide can be used to coat ELISA plates at 1 ug/ml and detected with antibodies (1:10-50K for neat serum and 0.5-1 ug/ml for affinity pure).

Histochemistry & Immunofluorescence: not tested.

Specificity & Cross-reactivity

Purified brain tubulin may contain an undefined composition of various isotypes as naturally found in brain. Antibodies are expected to react with various isotypes. Since tubulin is quite conserved in various species, antibodies may have a wider species cross-reactivity. Since tubulin are associated with microtubule associated proteins (MAPs), higher mol wt bands may be detected as well. Purified tubulin proteins # TUBL15-C or # TUBL16-N-100 should be used in ELISA, dot blot or western to confirm specificity of antibody.

References: (1) Bauman MH (1996) BBRC 219, 238-242; Cowan NJ (1983) Mol Cell Biol. 3, 1738-1745, Olsen JV (2006) Cell 127, 635-648.

*This product is for In vitro research use only.

Related material available from ADI

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 TUBL15-S-C 70417A