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### SZABO-SCANDIC Handels GmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

[mail@szabo-scandic.com](mailto:mail@szabo-scandic.com)

[www.szabo-scandic.com](http://www.szabo-scandic.com)

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## Anti-Human $\alpha$ -Tubulin Monoclonal Antibody-Ascites

**CLT9002**

Isotype: Mouse IgG<sub>1</sub>

### DESCRIPTION:

Tubulin has been determined to be the single major structural protein of microtubules (a major cytoskeletal element in various eukaryotic cells.) Studies on microtubules have indicated that they play a number of important roles in a wide range of cellular activities including mitosis, intracellular transport, cell movement and maintenance of cell shape. Tubulin itself is a major globular protein that consists of two distinct but similar polypeptides namely; alpha and beta tubulin. The assembly of tubulin involves the linking of alpha and beta tubulin dimers to form 13 protofilaments that are arrayed around a hollow core. The result is a microtubule which is 22 nm in diameter.

Cedarlane's anti-alpha tubulin monoclonal antibody can be used to identify the cytoplasmic network of microtubules, and thus can be used to study a wide variety of cellular processes. This particular antibody is specific for the alpha tubulin subunit and has been employed extensively in indirect immunofluorescence studies. It has also been used in "Western blotting techniques and the resulting immunoblots demonstrate a specificity directed predominantly against the alpha tubulin subunit of fibroblasts and chick brain tubulin.

A few of the cell types on which the antibody has been used include:

1. **Human platelets** - the antibody has been used in indirect immunofluorescence to determine the organization of microtubules and microtubule coils in normal platelets and giant platelet disorders. (1)
2. **Xenopus laevis oocytes** - antibody has been used in indirect immunofluorescence to detect microtubule regrowth on centrosome in Xenopus egg extracts. (2)
3. **Fission yeast, Schizosaccharomyces pombe, haploid, wild type h-972**- the antibody was used in the protein blotting of partially purified (DEAE fractions) tubulins from wild type S. pombe. (3)
4. **Starfish oocytes (Pisaster ochraceus)** - the antibody was used in indirect immunofluorescence to detect microtubules in the cortices of immature starfish oocytes. (4)
5. **Cellular slime mold (Dictyostelium mucoroides, Dictyostelium discoideum)** - the antibody has been used in the immunofluorescent staining of cytoplasmic as well as spindle microtubules. (5)
6. **Gerbil fibroma cells CCL-146** - after microinjection with the alpha tubulin monoclonal antibody, the cultured cells were fixed and stained for double label immunofluorescence. Was found to stain the cytoplasmic network of microtubules and mitotic spindles of cultured cells (6)

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4410 Paletta Court, Burlington, ON L7L 5R2 ph: (289) 288-0001, fax: (289) 288-0020  
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**PRESENTATION:**

1.0ml, lyophilized

**STORAGE/STABILITY:**

Lyophilized form is stable at 4°C or -20°C. After reconstitution, aliquot and freeze unused portions at -20°C in volumes appropriate for single usage. Avoid repeat freeze/thaw cycles.

**SPECIFICATIONS:**

Clone: DM1A

**Hybridoma Production:**

Immunization: Recipient: BALB/c mouse  
Immunogen: Native chick brain microtubules  
Fusion Partner: Spleen from immunized recipient fused  
with myeloma, NS-1.

Protein A Affinity: Binds protein A Sepharose at pH 7.5-8.0: elutes from protein A Sepharose at pH 6.25.

**Suggested Working Dilution:**

1:500 - 1:1000 dilution of antibody with PBS (phosphate buffered saline) for indirect immunofluorescence and Western blots (detects a 50-60 kDa band).

This is only a suggested starting point; the investigator should determine the optimal working dilution for the particular system under study.

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