**Product AS10 680**

**Tubulin alpha chain**

**Product Information**

**Background**

Tubulin alpha (TUA) together with beta tubulin is making up microtubules.

**Immunogen**

KLH-conjugated peptide derived from available tubulin alpha chain sequences including *Arabidopsis thaliana* tubulin alpha-1-chain P11139(At1g64740), alpha-2/alpha-4 chain B9DG77(At1g50010), alpha-5 chain B9DHQ0(At5g19780), alpha-6-chain P29511(At4g14960).

**Host**

Rabbit

**Clonality**

Polyclonal

**Purity**

Serum

**Format**

Lyophilized

**Quantity**

100 µl

**Reconstitution**

For reconstitution add 100 µl of sterile water

**Storage**

Store lyophilized/reconstituted at -20°C; once reconstituted make aliquots to avoid repeated freeze-thaw cycles. Please, remember to spin tubes briefly prior to opening them to avoid any losses that might occur from lyophilized material adhering to the cap or sides of the tubes.

**Tested applications**

Immunofluorescence (IF), Western blot (WB)

**Related products**

- AS10 681 | tubulin beta chain
- Plant and algal protein extraction buffer
- Secondary antibodies

**Additional information**

Please, note that tubulin alpha is only detected in actively dividing meristematic cells (see immunolocalization image below). Therefore to unable detection on a western blot, analyzed material must contain enough cells with dividing activity.

**Application Information**

**Recommended dilution**

1 : 500 (IF), 1 : 1000 (WB)

**Expected | apparent MW**

49 | 52 kDa (*Arabidopsis thaliana*)

**Confirmed reactivity**

*Arabidopsis thaliana*, *Chlamydomonas reinhardtii*, *Euglena gracilis*, *Hordeum vulgare*, *Oryza sativa*, *Zea mays*

**Predicted reactivity**

*Brassica napus*, *Chlorella vulgaris*, *Cucumis sativus*, *Euglena gracilis*, *Glycine max*, *Micromonas pusilla*, *Ostreococcus lucimarinus*, *Pismum sativum*, *Physcomitrella patens*, *Picea sitchensis*, *Populus trichocarpa*, *Solanum tuberosum*, *Sorghum bicolor*, *Ricinus communis*, *Triticum aestivum*, *Vigna radiata*, *Vitis vinifera*

**Not reactive in**

No confirmed exceptions from predicted reactivity are currently known.

**Additional information**

Peptide used to elicit this antibody is not present in tubulin beta.

**Selected references**

Application example

Western Blot

5 µg of total protein from Arabidopsis thaliana (1), Hordeum vulgare (2), Zea mays (3) extracted with Agrisera PEB extraction buffer were separated on 4-12 % SDS-PAGE and blotted 1h to PVDF. Blots were blocked with for 1h at room temperature (RT) with agitation. Blot was incubated in the primary antibody at a dilution of 1: 10 000 for 1h at RT with agitation. The antibody solution was decanted and the blot was rinsed briefly twice, then washed once for 15 min and 3 times for 5 min in TBS-T at RT with agitation. Blot was incubated in secondary antibody (anti-rabbit IgG horse radish peroxidase conjugated, from Agrisera AS09 602 ) diluted to 1:25 000 in for 1h at RT with agitation. The blot was washed as above and developed for 5 min with ECL Advance according to the manufacturers instructions (GE Health care). Exposure time was 120 seconds.

Total protein from either rice embryos or rice protoplasts extracted with buffer containing 60mM Tris-HCl (pH8.0), 2% SDS(w/v), 15% Sucrose (w/v) and protease inhibitor 1X were separated on 12 % SDS-PAGE and blotted 1h to PVDF. Blots were blocked with skimmed milk containing TBS 1X for 1h at room temperature (RT) with agitation. Blot was incubated in the primary antibody at a dilution of 1: 1 000 overnight at 4 degree with shaking about 40 rpm. The antibody solution was decanted and the blot was rinsed briefly twice, then washed once for 15 min and 3 times for 5 min in TBS-T at RT with agitation. Blot was incubated in secondary antibody (anti-rabbit IgG horse radish peroxidase conjugated) diluted to 1:20 000 in for 1h at RT with agitation. The blot was washed as above and developed for 5 min with ECL according to the manufacturers instructions. Exposure time was 10 seconds.

Courtesy of Ho Viet The, PhD Student, Scuola Superiore Sant'Anna (Pisa, Italy).

Immunolocalization
Tubulin alpha localization in roots of *Arabidopsis thaliana*. Tubulin alpha (red), nucleus (DAPI white). Plant material has been fixed in para-formaldehyde for 30 minutes. Tissue cleaning has been performed before immunolocalization. Primary antibodies: Agrisera anti-tubulin alpha 1:500. Secondary antibody: goat anti-rabbit IgG Alexa conjugated (red color), dilution 1:500. Scale bar – 10 µm.

Courtesy Dr. Taras Pasternak, Freiburg University, Germany