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**Product no AS03 037A**

# RbcL | Rubisco large subunit, form I (affinity purified)

## Product information

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|---|---|
| **Immunogen** | KLH-conjugated synthetic peptide conserved across all known plant, algal and (cyano)bacterial RbcL protein sequences (form I L8S8 and form II L2), including *Arabidopsis thaliana* O03042, *Hordeum vulgare* P05698, *Oryza sativa* P0C510, *Chlamydomonas reinhardtii* P00877, *Synechococcus* PCC 7920 A5CKC5 |
| **Host** | Rabbit |
| **Clonality** | Polyclonal |
| **Purity** | Immunogen affinity purified serum in PBS pH 7.4. |
| **Format** | Lyophilized |
| **Quantity** | 50 µg |
| **Reconstitution** | For reconstitution add 50 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 the tubes briefly prior to opening them to avoid any losses that might occur from material adhering to the cap or sides of the tube. |
| **Additional information** | Anti-RbcL can be used as a cellular [compartment marker] of plastid stroma (cytoplasm in cyanobacteria) and detects RbcL protein from 31.25 fmoles. As both forms (I and II) are detected it is suitable for work with samples from Dinoflagellates, Haptophytes and Ochrophytes (diatoms, Raphidophytes, brown algae) as well as higher plants. This antibody together with Agrisera Rubisco protein standard is very suitable to quantify Rubisco in plant and algal samples.<br><br>This product can be sold containing ProClin if requested. |

## Application information

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| **Recommended dilution** | 1 : 5000-10 000 (WB) |
| **Expected \| apparent MW** | 52.7 kDa (*Arabidopsis thaliana*), 52.5 kDa (cyanobacteria), 52.3 (*Chlamydomonas reinhardtii*) |
| **Confirmed reactivity** | *Arabidopsis thaliana, Apium graveolens*, *Artemisia annua, Baculogypsina sphaerulata* (benthic foraminifer), *Bienertia sinuspersici, Cicer arietinum, Chlamydomonas raudensis, Chlamydomonas reinhardtii, Colobanthus quitensis* Kunt Bartl*, Cyanophora paradoxa, Cylindrospermopsis raciborskii* CS-505*, Emiliana huxleyi, Euglena gracilis, Fraxinus mandshurica, Fucus vesiculosus, Glycine max, Gonyaulax polyedra, Guzmania* hybrid*, Heterosigma akashiwo, Karenia brevis* (C.C.Davis) s) G.Hansen & Ø.Moestrup (Wilson isolate)*, Liquidambar formosana, Micromonas pusila, Nicotiana benthamiana, Physcomitrium patens, Pinus yunnanensis, Porphyra sp. , Schima superba, Stanleya pinnata*, *Spinacia oleracea,* lichens*, Symbiodinium sp., Synechococcus PCC 7942, Thalassiosira pseudonana, Thermosynechococcus elongatus, Prochlorococcus sp.* (surface and deep water ecotype)*, Triticum aestivum,* dinoflagellate endosymbionts (genus Symbiodinium), extreme acidophilic verrucomicrobial methanotroph *Methylacidiphilum fumariolicum* strain SolV, *Thalassiosira punctigera, Vitis vinifera* |
| **Predicted reactivity** | Aalpha proteobacteria, Algae (brown and red), Dicots, Beta-proteobacteria, Conifers, Cryptomonads, Cyanobacteria (prochlorophytes), Gamma-proeobacteria, Liverworts, Monocots, Mosses, Suaeda glauca, Welwitschia<br>Species of your interest not listed? Contact us |
| **Not reactive in** | No confirmed exceptions from predicted reactivity are currently known |
| **Selected references** | Cui, Liu, Li, et al. (2022) The cellulose--lignin balance affects the twisted growth of Yunnan pine trunk. Authorea. October 10, 2022. DOI: 10.22541/au.166538021.18232197/v4<br>He, Buren, Baysal, et al. (2022) Nitrogenase Cofactor Maturase NifB Isolated from Transgenic Rice is Active in FeMo-co Synthesis. ACS Synth Biol. 2022;11(9):3028-3036. doi:10.1021/acssynbio.2c00194<br>Li et al. (2021). Physiological responses of Skeletonema costatum to the interactions of seawater acidification and the combination of photoperiod and temperature. Biogeosciences, 18, 1439-1449, 2021 https://doi.org/10.5194/bg-18-1439-2021<br>Lal et al. (2018). The Receptor-like Cytoplasmic Kinase BIK1 Localizes to the Nucleus and Regulates Defense Hormone Expression during Plant Innate Immunity. Cell Host Microbe. 2018 Apr 11;23(4):485-497.e5. doi: 10.1016/j.chom.2018.03.010.<br>Korotaeva et al. (2018). Effect of Heat Hardening on Expression of Genes phb3 and phb4 and Accumulation of Phb Proteins in Green Leaves of Arabidopsis thaliana. Russian Journal of Plant Physiology, 65(5), 688-696, 2018 https://doi.org/10.1134/s1021443718040039 |

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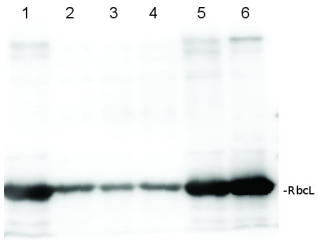
**application example**




Total protein from *Populus* T89 were extracted with “KEB buffer”, precipitated with ethanol on ice and denatured with “loading buffer” at 100°C for 10 min, separated on 8% SDS-PAGE and blotted O/N to PVDF using (wet blot) tank transfer. Blots were blocked with 5%TBS milk, for 1h at room temperature (RT) with agitation. Blot was incubated in the primary antibody at a dilution of 1: 1 000 TBS for 2h at RT with agitation. The antibody solution was decanted and the blot was rinsed briefly with TBS-T, then washed for 1h in TBS-T at RT with agitation. Blot was incubated in secondary antibody (goat anti-rabbit IgG HRP-conjugated, from Agrisera, AS09 602) diluted to 1:5000 in TBS-M (milk 5%) for 1h at RT with agitation. The blot was washed as above and developed with chemiluminescent detection reagent, for 10s increment until exposure time of 30s total.

Courtesy Dr. Mark Ruhl, Umeå Plant Science Centre, Sweden