

product **AS05 086**

UGPase | UDP-glucose pyrophosphorylase (cytoplasm marker)

product information

background	UDP-glucose pyrophosphorylase (UGPase, UDPGP) E.C=2.7.7.9. is a key enzyme of synthesis of sucrose, cellulose and other saccharides.
immunogen	recombinant UGPase overexpressed and purified from E.coli Q43772
antibody format	rabbit polyclonal serum, lyophilized
quantity	200 µl, for reconstitution add 200 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	western blot (WB)
additional information	cellular [compartment marker] of cytoplasm, UGPase is a cytoplasmic protein Martz et al. (2002)

application information

recommended dilution	1: 1000 - 1: 3000 with standard ECL (WB)
expected apparent MW	51.6 kDa
confirmed reactivity	<i>Arabidopsis thaliana</i> , <i>C. annuum</i> , <i>C. sativus</i> , <i>F. arundinacea</i> , <i>Hordeum vulgare</i> , <i>L. esculentum</i> , <i>L. chilense</i> , <i>N. tabacum</i> , <i>Oryza sativa</i> , <i>Populus sp.</i> , <i>S. tuberosum</i> , <i>S. soganandinum</i> ,
predicted reactivity	dicots including: <i>Gossypium hirsutum</i> , <i>Ricinus communis</i> , <i>Solanum tuberosum</i> , <i>Vitis vinifera</i> , monocots including: <i>Saccharum officinarum</i> , <i>Zea mays</i> , trees: <i>Populus tremula</i> , conifers: <i>Pinus taeda</i>
not reactive in	no confirmed exceptions from predicted reactivity known in the moment
additional information	this antibody detects 1 ng of UGPase in a western blot
selected references	Yu et al. (2011) . Comparative proteomic study reveals the

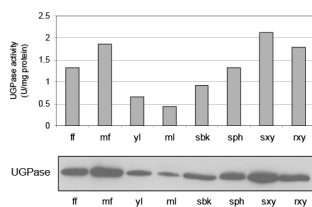
involvement of diurnal cycle in cell division, enlargement and starch accumulation in developing endosperm of *Oryza sativa*. *J of Proteome Res. Nov. ahead of print*

Estavillo et al. (2011). Evidence for a SAL1-PAP Chloroplast Retrograde Pathway That Functions in Drought and High Light Signaling in Arabidopsis. *Plant Cell Nov. 29* (ahead of print).

Sullivan et al. (2007). In Vivo Phosphorylation Site Mapping and Functional Characterization of Arabidopsis Phototropin 1. *Mol. Plant*-published on-line.

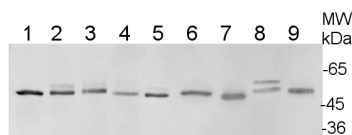
Kuras et al. (2007). A specific c-type cytochrome maturation system is required for oxygenic photosynthesis. *PNAS* 104:9906-9910.

application example



A 1-year-old greenhouse grown plant was dissected into different tissues, which were then used for enzyme assays and immunoblot analyses. Equal amounts of total protein (7.5 µg) were loaded on each lane. SDS-PAGE was run on a 7.5% gel. Immunoblot was done using Amersham PVDF transfer membrane. Primary antibodies against barley UGPase were used in 1:1000 dilution. Secondary antibodies (Amersham ECL Rabbit IgG, HRP-Linked Whole Antibody from donkey) were used at 1:10 000.

ff - female flower, mf - male flower, yl - young leaf, ml - mature leaf, sbk - stem bark, sph - stem phloem and cambium, sxy - stem xylem, rxy - root xylem



15 µg of total soluble protein extract from leaves and stems of *Solanum tuberosum* (1), *Solanum soganandinum* (2), *Lycopersicum esculentum* (3), *Lycopersicum chilense* (4), *Arabidopsis thaliana* (5), *Cucumis sativus* (6), *Festuca arundinacea* (7), *Nicotiana tabacum* (8) and *Capsicum annuum* (9) were separated on **10% SDS-PAGE** and blotted

onto **nitrocellulose** . After blocking with 5% milk in TBST , blots were incubated with the primary antibody at a dilution of **1:1500** in TBST for 1h at room temperature. Following incubation and wash steps, blots were incubated with SIGMA secondary Anti-Rabbit IgG , Alkaline Phosphatase Conjugate for 1 hour at a dilution of 1:40000 . Blots were developed with the alkaline phosphatase detection system using **NBT/BCIP** (SIGMA).

Courtesy of Bartosz Szabala, Institute of Plant Genetics, Polish Academy of Science .