

Agrisera

This product is for research use only (not for diagnostic or therapeutic use)

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Product no **AS05 070**

Educational antibody kit - photosynthesis

Product information

This kit contains antibodies to the following 5 proteins and 4 protein standards for their quantification. It also includes a matching secondary antibody and an ECL detection reagent.

Rubisco - universal and absolutely essential carbon fixation enzyme that is conserved across oxygenic photoautotrophs and other groups. The RbcL (Rubisco large subunit) protein is hyperabundant and regulation of RbcL content under different conditions or stress responses sets a limit on the maximum capacity for CO₂ uptake in a population or community.

Proteins involved in conversion of solar energy into chemical bonds:

PsaC protein of multisubunit protein complex - Photosystem I, which harnesses light energy required for photosynthesis to occur.

PsbA protein of multisubunit complex - Photosystem II - the ultimate source of almost all biosynthetic reductant in the biosphere. PsbA (D1) protein is rapidly cycled under illumination in all oxygenic photobionts. Tracking PsbA pools using the Global PsbA Antibody shows the functional content of Photosystem II in a wide range of samples.

Lhcb1 - harnesses light energy for photosynthesis (Photosystem II)

AtpB highly conserved across the beta subunits of known F-type ATP Synthases from chloroplasts, mitochondria and most bacteria. The ATP Synthase complex is essential for the synthesis of ATP from ADP and free phosphate

Immunogen | KLH-conjugated respective synthetic peptides were used

Host | Primary antibodies: Rabbit. Secondary antibodies: Goat.

Clonality | Polyclonal

Quantity | 10 or 50 µl / tube of each antibody. 100 µl / tube of each protein standard. 50 µl (5 x 10 µl) of secondary antibody. 10 ml trial pack of ECL reagent.

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.

Additional information

This kit can be used during teaching labs and contains following antibodies and protein standards:

Product information - Primary antibodies:

Product number:	Product name:	Reconstitution:	Recommended dilution:
AS01 004	Anti-Lhcb1 antibody*	Please follow the instructions on the lable on each vial.	1:2000 for ECL detection.
AS03 037	Anti-RbcL global antibody*	Please follow the instructions on the lable on each vial.	1:5000-10 000 for ECL detection.
AS10 939	Anti-PsaC global antibody*	Please follow the instructions on the lable on each vial.	1:1000 for ECL detection.
AS05 084	Anti-PsbA antibody*	Please follow the instructions on the lable on each vial.	1:10 000 for ECL detection.
AS05 085-10	Anti-AtpB antibody*	Please follow the instructions on the lable on each vial.	1:2000-5000 for ECL detection.

* All primary antibodies in this kit are raised in rabbits.

Product information - Protein standards/positive controls:

Product number:	Product name:	Reconstitution:	Amount to load on the gel:	Size:
AS01 016S	PsbA protein standard	Please follow the instructions on the lable on each vial.	2 µl (0.25 pmol/ µl)	41.5 kDa*
AS01 017S			2 µl (0.056 pmol/ µl)	

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	RbcL (Rubisco) protein standard	Please follow the instructions on the label on each vial.		52.7 kDa
<u>AS03 030S</u>	AtpB protein standard	Please follow the instructions on the label on each vial.	10 µl (0.27 pmol/µl)	53.1 kDa*
<u>AS04 042S</u>	PsaC protein standard	Please follow the instructions on the label on each vial.	2 µl (0.15 pmol/µl)	11.5 kDa*

*These proteins are larger than a respective native protein due to the addition of His-tag

Product information - Secondary antibody:

AS09 602- **Goat anti-Rabbit IgG (H&L), HRP conjugated, 50 µl (5x10 µl)**

Product information - ECLreagent:

AS16 ECL-N-10 **AgriseraECL Bright (10 ml trial pack)**

Educational information about Quantitative western blot can be found here: [detailed method description](#), [video tutorial](#)

Application information