product AS04 051
2 | Photosynthesis Tool Kit - quantitation

**product information**

**Background**

This kit allows quantitation of major photosynthetic proteins: Rubisco, PsaC (PSI) and PsbA (PSII) as well as determination of PSI/PSII ratios using the *western blot* technique.

The kit contains following global antibodies, protein standards and secondary antibody:

- *Rabbit anti-RbcL* (Form I and Form II). Product number: AS03 037
- *Rabbit anti-PsaC*. Product number: AS10 939
- *Rabbit anti-PsbA* Product number: AS05 084
- *Rubisco* protein standard. Product number: AS01 017S
- *PsaC* protein standard. Product number: AS04 042S
- Goat anti-Rabbit IgG (H&L), HRP conjugated (50 µl), Product number: AS09 602-trial
- AgriseraECL Bright (10 ml trial pack), AS16 ECL-N-10

**Immunogen**

KLH-conjugated syntetic peptides for respective antibodies, see product info sheets

**Host**

Rabbit. Secondary antibody: Goat.

**Clonality**

Polyclonal

**Quantity**

50 µl of respective antibody. 100 µl / tube of each protein standard. 50 µl of secondary antibody. 10 ml 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.

**Tested applications**

*western blot* (WB)

**Related products**

- Plant and algal protein extraction buffer
- Secondary antibodies

**Additional information**

**Product information - Primary antibodies:**

<table>
<thead>
<tr>
<th>Product number</th>
<th>Product name</th>
<th>Reconstitution:</th>
<th>Recommended dilution:</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS03 037</td>
<td>Rabbit Anti-RbcL</td>
<td>For reconstitution see label on respective tube.</td>
<td>1:5000-10 000 with ECL</td>
</tr>
<tr>
<td></td>
<td>Global antibody</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AS10 939</td>
<td>Rabbit Anti-PsaC</td>
<td>For reconstitution see label on respective tube.</td>
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<tr>
<td>AS05 084</td>
<td>Rabbit Anti-PsbA</td>
<td>For reconstitution see label on respective tube.</td>
<td>1:10 000 with ECL</td>
</tr>
<tr>
<td></td>
<td>Global antibody</td>
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</tbody>
</table>

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

**Product information - Protein standards:**

<table>
<thead>
<tr>
<th>Product number</th>
<th>Product name</th>
<th>Concentration:</th>
<th>Size:</th>
<th>Western Blot – Positive Control:</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS01 016S</td>
<td>PsbA *</td>
<td>0.25 pmol/µl</td>
<td>41.5 kDa*</td>
<td>To generate a standard curve, 3 loads are suggested (0.5, 2 and 4 µl). For most applications a sample load of 0.2 µg of chlorophyll will give a PsbA signal in this range. A 2 µl load is optimal for most chemiluminescent detection systems to use as a positive control.</td>
</tr>
</tbody>
</table>

*Western Blot – Positive Control: To generate a standard curve, 3 loads are suggested (0.5, 2 and 4 µl). For most applications a sample load of 0.2 µg of chlorophyll will give a PsbA signal in this range. A 2 µl load is optimal for most chemiluminescent detection systems to use as a positive control.
To generate a standard curve, 3 loads are suggested (0.5, 2 and 4 µl). For most applications a sample load of 0.2 µg of chlorophyll will give a RbcL signal in this range. A 2 µl load is optimal for most chemiluminescent detection systems to use as a positive control.

To generate a standard curve, 3 loads are suggested (0.5, 2 and 4 µl). For most applications a sample load of 0.2 µg of chlorophyll will give a PsaC signal in this range. A 2 µl load is optimal for most chemiluminescent detection systems as a positive control.

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

* For reconstitution of standards see label on respective tube.

Product information - Secondary antibody:

**AS09 602-trial Goat anti-Rabbit IgG (H&L), HRP conjugated**, 50 µl (2x25 µl)

Product information - ECL reagent:

**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

**Confirmed reactivity**

Algae, Cyanobacteria, Higher plants

**Additional information**

Estimation of PSI to PSII ratio can be done using quantitative western blot technique using anti-PsaC (PSI) and PsbA (PSII) antibodies.

References:


**Selected references**


