

Agrisera

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

contact: support@agrisera.com

Agrisera AB | Box 57 | SE-91121 Vännäs | Sweden | +46 (0)935 33 000 | www.agrisera.com

product **AS09 146S**

PsbD | D2 protein of PSII positive control/quantitation standard

product information

Background | D2 protein (**PsbD**) forms the reaction core of PSII (Photosystem II) as a heterodimer with the D1 protein (PsbA). PsbD is homologous to the D1 protein, with slightly higher molecular mass of about 39,5 kDa. Accumulation of D2 protein is an important step in the assembly of the PSII reaction centre complex.

This product is a recombinant protein standard, source *Synechocystis* strain PCC 6803.

Format | Lyophilized in glycerol

Quantity | 250 µl

Reconstitution | For reconstitution add 225 µl of sterile water. Please notice that this product contains 10% glycerol and might appear as liquid but is provided lyophilized.

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 | [Collection of other protein standards](#)

[AS06 146 | Anti-PsbD | D2 protein of PSII, rabbit antibodies](#)

[Collection of other global antibodies](#)

[Collection of antibodies to PSII proteins](#)

Additional information | The PsbD protein standard can be used in combination with [global anti-PsbD antibodies](#) to quantitate PsbD from a wide range of species. [Global antibodies](#) are raised against highly conserved amino acid sequences in the PsbD protein.

Quantitative western blot: [detailed method description](#), [video tutorial](#)

Application information

Recommended dilution | Standard curve: 3 loads are recommended (0.5, 2 and 4µl).

For most applications a sample load of 0.2 µg of chlorophyll will give a PsbD signal in this range.

Positive control: a 2 µl load per well is optimal for most chemiluminescent detection systems.

This standard **is stabilized and ready** and does not require heating before loading on the gel.

Please note that this product contains 10% glycerol and might appear as liquid but is provided lyophilized. Allow the product several minutes to solubilize after adding water. Mix thoroughly but gently. Take extra care to mix thoroughly before each use, as the proteins tend to settle with the more dense layer after freezing.

Expected | apparent MW | In most gel systems PsbD migrates around 28-30 kDa

Additional information | **Concentration:** after adding 225 µl of milliQ water final concentration of the standard is 0.25 pmoles/ul

Protein standard buffer composition: Glycerol 10%, Tris Base 141 mM, Tris HCl 106 mM, LDS 2%, EDTA 0.51 mM, SERVA® Blue G250 0.22 mM, Phenol Red 0.175 mM, pH 8.5, 0.1mg/ml PefaBloc protease inhibitor (Roche), 50mM DTT.

This standard is ready-to-load and does not require any additions or heating. It needs to be fully thawed and thoroughly mixed prior to using. Avoid vigorous vortexing, as buffers contain detergent. Following mixing, briefly pulse in a microcentrifuge to collect material from cap.

Agrisera

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

contact: support@agrisera.com

Agrisera AB | Box 57 | SE-91121 Vännäs | Sweden | +46 (0)935 33 000 | www.agrisera.com

This standard is stabilized and ready and does not require heating before loading on the gel.

Please note that this product contains 10% glycerol and might appear as liquid but is provided lyophilized. Allow the product several minutes to solubilize after adding water. Mix thoroughly but gently. Take extra care to mix thoroughly before each use, as the proteins tend to settle with the more dense layer after freezing.

Selected references

- [Partensky](#) et al. (2018). Comparison of photosynthetic performances of marine picocyanobacteria with different configurations of the oxygen-evolving complex. *Photosynth Res.* 2018 Jun 25. doi: 10.1007/s11120-018-0539-3.
- [Li](#) et al. (2016). A Hard Day's Night: Diatoms Continue Recycling Photosystem II in the Dark. *Front. Mar. Sci.*, 08 November 2016
- [Li](#) et al. (2014). The nitrogen costs of photosynthesis in a diatom under current and future pCO₂. *New Phytol.* 2014 Sep 25. doi: 10.1111/nph.13037.