

# Agrisera

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

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product **AS15 2955S**

## RbcL II | Rubisco form II positive control/quantitation standard

### product information

<b>Background</b>	<p><b>Rubisco (Ribulose-1,5-bisphosphate carboxylase/oxygenase)</b> catalyzes the rate-limiting step of CO<sub>2</sub> fixation in photosynthetic organisms. Form II Rubisco is present in many photosynthetic bacteria and archaea and in some photosynthetic dinoflagellates.</p> <p><b>Source of Rubisco standard:</b> Overexpressed RbcL form II protein</p>
<b>Format</b>	Lyophilized in glycerol
<b>Storage</b>	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.
<b>Tested applications</b>	Western blot (WB)
<b>Related products</b>	Primary antibody which is matching RbcL form II standard: <a href="#">AS15 2955</a>   anti-RbcL Type II, rabbit global antibody <a href="#">collection of other protein standards</a> <a href="#">collection of global antibodies</a> <a href="#">Plant and algal protein extraction buffer</a>
<b>Additional information</b>	The RbcL protein standard can be used in a combination with Agrisera global antibodies ( <a href="#">AS15 2955</a> from rabbit) to quantitate RbcL from a wide range of species. <a href="#">Global antibodies</a> are raised against highly conserved amino acid sequence. This standard is also included in following kits: <a href="#">Educational antibody kit - photosynthesis</a> , <a href="#">Photosynthesis Tool Kit - quantitation</a> , <a href="#">Rubisco quantitation kit</a> .  Quantitative western blot: <a href="#">detailed method description</a> , <a href="#">video tutorial</a>

### Application information

<b>Recommended dilution</b>	<p>Standard curve: 3 loads are recommended (0.5, 2 and 4µl). For most applications a sample load of 0.2 µg of chlorophyll/well will give a RbcL signal in this range.</p> <p>Positive control: a 2 µl load per well is optimal for most chemiluminescent detection systems. Higher standard concentration needs to be used to allow detection by Coomassie stains. Such gels with higher standard concentration can not be used for quantitation using chemiluminescence.</p> <p>This standard <b>is stabilized and ready</b> and does not require heating before loading on the gel.</p> <p>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.</p>
<b>Expected   apparent MW</b>	52.7 kDa
<b>Additional information</b>	<p><b>Concentration:</b> after re-constitution with sterile milliQ water final concentration of the standard is 0.15 pmoles/µl</p> <p><b>Protein standard buffer composition:</b> 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), 50 mM DTT.</p> <p><b>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.</b></p> <p><b>This standard is stabilized and ready and does not require heating before loading on the gel.</b></p> <p><b>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</b></p>

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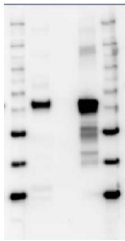
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Please, use the 55 kDa size of RbcL for calculations. The pmoles in the standard refer to pmoles of rbcL monomers.

## Application example

M 1 2 3 M



1.5 µg of total protein extract from *Rhodobacter capsulatus* (1); extracted with Agrisera Protein Extraction Buffer PEB ([AS08 300](#)); 0.5 pmol of recombinant RbcL I (2), 0.5 pmol of **recombinant RbcL II, product [AS15 2955S](#)** (3) Samples were diluted with 1X sample buffer (NuPAGE LDS sample buffer (Invitrogen) supplemented with 50 mM DTT and heat at 70°C for 5 min and kept on ice before loading. Protein samples were separated on 4-12% Bolt Plus gels, LDS-PAGE and blotted for 70 minutes to PVDF using tank transfer. Blots were blocked immediately following transfer in 2% blocking reagent or 5% non-fat milk dissolved in 20 mM Tris, 137 mM sodium chloride pH 7.6 with 0.1% (v/v) Tween-20 (TBS-T) for 1h at room temperature with agitation. Blots were incubated in the primary antibody at a dilution of 1: 10 000 (in blocking reagent) for 1h at room temperature with agitation. The antibody solution was decanted and the blot was rinsed briefly twice, and then washed 1x15 min and 3x5 min with TBS-T at room temperature with agitation. Blots were incubated in secondary antibody (anti-rabbit IgG horse radish peroxidase conjugated, recommended secondary antibody [AS10 1489](#), Agrisera) diluted to 1:25 000 in blocking reagent for 1h at room temperature with agitation. The blots were washed as above. The blot was developed for 5 min with chemiluminescent detection reagent of extreme femtogram sensitivity, according the manufacturers instructions. Images of the blots were obtained using a CCD imager (VersaDoc MP 4000) and Quantity One software (Bio-Rad). Exposure time was 30 seconds.