product AS09 524
MnSOD | Manganese superoxide dismutase

product information

**Background**
Plant MnSOD catalyzes the dismutation of superoxide to molecular oxygen and water. One subunit of the homotetramer complex binds 1 Mn cofactor. Antioxidant system works as a defense against oxidative stress. SOD (superoxide dismutase) catalyzes the dismutation of superoxide into oxygen and H₂O. SODs are classified, according to their metal cofactor, as FeSOD, MnSOD, or Cu/ZnSOD. Chloroplasts generally contain Cu/ZnSOD and, in a number of plant species, FeSOD. Synonyms: MSD1, SODA, SOD3

**Immunogen**
KLH-conjugated synthetic peptide derived from available MnSOD sequences in di and monocotyl plants including *Arabidopsis thaliana* O81235, At3g10920

**Host**
Rabbit

**Clonality**
Polyclonal

**Purity**
Serum

**Format**
Lyophilized

**Quantity**
50 µl

**Reconstitution**
For reconstitution add 50 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)

**Related products**
AS06 125 | anti-FeSOD | chloroplastic Fe-dependent superoxide dismutase
AS06 170 | anti-CSD2 | chloroplastic Cu/Zn superoxide dismutase
AS07 219 | anti-CCS | chloroplastic copper chaperone for SOD
Plant protein extraction buffer
Secondary antibodies

**Additional information**
Freshly prepared reducing agent like DTT needs to be used in a sample buffer. Otherwise MnSOD will migrate at 50 kDa.

**Application information**

**Recommended dilution**
1 : 2000-1 : 5000 (WB)

**Expected | apparent MW**
25 | 25 kDa

**Confirmed reactivity**
*Arabidopsis thaliana, Armeria maritima, Brassica napus, Brassica oleracea, Iris pumila, Nepeta cataria, Nepeta ranjensis, Oryza sativa, Pisum sativum, Salicornia sp., Solanum tuberosum*

**Predicted reactivity**
*Gossypium mexicanum, Hordeum vulgare, Musa acuminata, Picea sitchensis, Populus balsamifera sub. trichocarpa, Raphanus sativus, Triticum aestivum, Vitis vinifera, Zea mays*

**Not reactive in**
No confirmed exceptions from predicted reactivity are currently known.

**Additional information**
Rurek et al. (2018). Mitochondrial Biogenesis in Diverse Cauliflower Cultivars under Mild and Severe DBalážová


Application example

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>MnSOD</td>
<td></td>
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</tbody>
</table>

5 µg (1,2), 10 µg (3, 4) of total protein from *Pisum sativum* were separated on 12% SDS-PAGE and blotted 30 min. to PVDF. Blots were blocked (in 5% fat free milk) immediately following transfer in for 1h at RT with agitation. Blots were incubated in the primary antibody at a dilution of 1: 2 000 overnight in 4°C with agitation. The antibody solution was decanted and the blot was rinsed briefly twice, then washed 4 times for 5 min in TBS-T at RT with agitation. Blots were incubated in secondary antibody (anti- IgG horse radish peroxidase conjugated, from Agrisera, AS09 602) diluted to 1:20 000 for 1h at RT with agitation. The blots were washed 4 times for 5 min in TBS-T and 2 times for 5 min in TBS and developed for 1 min with ECL detection reagent according to the manufacturers instructions. Exposure time was 60 seconds.

Courtesy Dr. Elżbieta Romanowska, Warsaw University, Poland