Ferredoxin

Background
Ferredoxins are acidic, low molecular weight, soluble iron-sulfur proteins found in various organisms. Iron-sulfur proteins are defined as proteins carrying iron-sulfur cluster(s) in which the iron is at least partially coordinated by sulfur. The protein acts as multifunctional electron carriers in diverse redox systems. The chloroplast ferredoxin is involved in both cyclic and non-cyclic photophosphorylation reactions of photosynthesis and other reductive reactions in the chloroplast.

Immunogen
Native ferredoxin purified from Spinacia oleracea.

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.

Tested applications
Western blot (WB)

Related products
collection of antibodies to other proteins involved in electron transfer

Additional information
In Arabidopsis thaliana leaf extracts there is a strong cross-reactivity at 20 kDa.

Application information

Recommended dilution
1 : 1000 (WB)

Expected | apparent MW
10 (Spinacia oleracea); 16.7 (Arabidopsis thaliana), 13.7 (Chlamydomonas reinhardtii)

Confirmed reactivity
Arabidopsis thaliana, Chlamydomonas reinhardtii, Hordeum vulgare, Pinus strobus, Spinacia oleracea, Synechocystis 6803 substrain PCC-M

Predicted reactivity
Dicots, Nicotiana tabacum, Physcomitrella patens

Not reactive in
Phaeodactylum tricornutum

Additional information
Load per well: 20-40 µg/lane required for Arabidopsis thaliana, 2-10 µg for other species.

This product can be sold containing proclin if requested.

Selected references
20 or 40 µg of total protein from *Arabidopsis thaliana* (WT) leafs or ferredoxin mutant fd2 were separated on 15 % acrylamide gel with 6 M urea. Filters were blotted on PVDF, blocked (1 h) with 5 % milk, incubated with 1: 1000 anti-ferredoxin (overnight in 4ºC) in 1 % milk/TBS-T followed by secondary antibody (2 h) coupled to HRP and visualization with standard ECL.

20 or 40 µg of total protein from *Arabidopsis thaliana* (WT) leafs or ferredoxin mutant fd2 were separated on 15 % acrylamide gel with 6 M urea. Filters were blotted on PVDF, 5 µg of soluble protein extracts from *Chlamydomonas reinhardtii* strain CC-4532 were separated on 15 % SDS-PAGE and blotted at 4 W for 30 min to nitrocellulose membrane (0.1 µm pore size) using semi-dry transfer. The blot was blocked with 1 % non-fat dry milk overnight at room temperature (RT) with agitation. The blot was incubated in the primary antibody solution at a dilution of 1: 10 000 in PBS-T+1% milk for 2h at RT with agitation. The antibody solution was decanted and the blot was rinsed briefly twice, then washed once for 15 min and 3 times for 5 min in PBS-T at RT with agitation. The blot was incubated in secondary antibody solution (anti-rabbit IgG-AP conjugated) diluted to 1: 300 in PBS-T+1% milk for 1h at RT with agitation. The blot was washed as above and developed with exposure time of 2.5 minutes.

Courtesy of Dr. Marcus Miethke, Department of Chemistry & Biochemistry, UCLA