

Anti- Ferredoxin-1 (plant) antibody, rabbit polyclonal

81-011 100 µg

Shipping and Storage: Shipped at 4°C or -20°C and store at -20°C. Do not freeze.

Immunogen: Purified recombinant Maize Fd1 protein (full-size, no Tag).

Form: 1 mg/ml in PBS- with 50% glycerol. Filter sterilized. No preservative nor carrier protein added.

Purity: IgG, affinity-purified with Protein A.

Reactivity: Reacts with plant Fd1 and Fd2 isoproteins including those of Maize and Arabidopsis

Validation: Specificity has been validated by WB with purified maize Ferredoxin-1 (Fd1) protein.

Applications:

1. Western blotting (1/1,000-1/5,000 dilution)
2. ELISA (Assay dependent)

Other applications have not been tested.

Background: Ferredoxins are iron-sulfur proteins that transfer electrons in a wide variety of metabolic reactions. It occupies a key position both for transferring the photoreducing power to Fd-NADP⁺ oxidoreductase (FNR), hence the formation of NADPH, and for mediating the cyclic electron flow around photosystem I (PSI).

Sucellular location: Chloroplast

Data Link: Swiss-Prot [O04090](#) (*A. thaliana*), [P27787](#) (*Z. mays*)

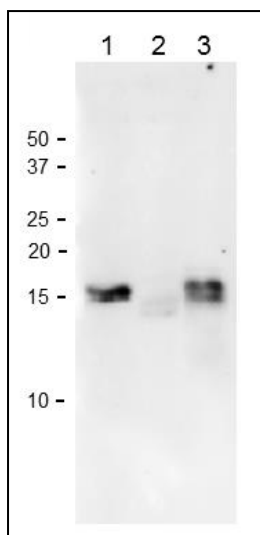


Fig.1 Western Blot of Ferredoxin isoproteins with anti-Ferredoxin-1 (maize) antibody in plant leaf extracts.

Anti-Fd1 antibody was used at 1/1,000 dilution. Secondary antibody (goat anti-rabbit IgG antibody HRP-conjugated, ab97051) was used at 1/10,000 dilution.

1. Recombinant Maize Fd1.
2. Arabidopsis leaf extract, 10 µg
3. Maize leaf extract, 10 µg

Molecular mass of Maize Fds are about 12kDa, but migrates at the position around 15 kDa on SDS-PAGE.

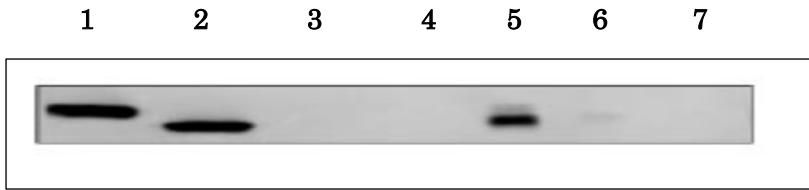


Fig.2 Detection of Arabidopsis Ferredoxin isoproteins, 1 and 2 by western blotting with anti-Ferredoxin-1 (maize) antibody.

1. Recombinant At-Ferredoxin-1 (200 nmol)
2. Recombinant At-Ferredoxin-2 (200 nmol)
3. Recombinant At-Ferredoxin-3 (200 nmol)
4. Recombinant At-Ferredoxin-4 (20 nmol)
5. Leaf extract of Arabidopsis, soluble fraction with 70% saturated ammonium sulfate.
6. Leaf extract of Arabidopsis, insoluble fraction with 70% saturated ammonium sulfate.
7. Root extract of Arabidopsis

The Maize leaf type specific antibody, anti-Ferredoxin-1 antibody also specifically reacts with Arabidopsis leaf type ferredoxins, 1 and 2 isoproteins.

Reference: This product has been used in the following publications.

1. Kimata Y, Hase T. "Localization of ferredoxin isoproteins in mesophyll and bundle sheath cells in maize leaf." *Plant Physiol.* 1989 Apr;89(4):1193-7. PMID: [16666683](#)
WB ;Maize
2. Hanke GT, Hase T. "Variable photosynthetic roles of two leaf-type ferredoxins in arabidopsis, as revealed by RNA interference." *Photochem Photobiol.* 2008 Nov-Dec;84(6):1302-9. PMID: [18673322](#) **WB ;Arabidopsis**