Anti-L-FNR1 (Leaf Ferredoxin NADP Reductase, isoprotein1) antibody, rabbit polyclonal

81-001　　200 µg

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

Validation: Specificity has been validated by WB with recombinant full-size maize FNR1 protein.

Immunogen: Purified recombinant maize leaf FNR1 protein.

Reactivity: Plant leaf FNRs including FNR1 of Maize and Arabidopsis
Cross reacts with Maize L-FNR2 and L-FNR3, and Arabidopsis L-FNR2.
Reacts weakly with root FNR.

Applications:

1. Western blotting (1/500-1/2,000 dilution)
2. ELISA　(assay dependent)

Purity: IgG fraction, Protein purified.

Form: 1 mg/ml in PBS, 50% glycerol. Filter sterilized. No preservative or carrier added.

Background: Ferredoxin-NADP reductase, leaf isozyme 1 (L-FNR1) plays a key role in regulating the relative amounts of cyclic and non-cyclic electron flow to meet the demands of the plant for ATP and reducing power.

Subcellular location: Chloroplast

Data Link: Swiss-Prot Q9FKW6 (A. thaliana), Q9SLP6 (Z. mays)

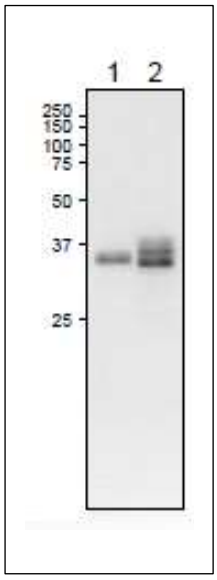

Fig.1　Western Blot of L-FNR1 protein

Anti-L-FNR1 antibodywas used at 1/500 dilution. Second antibody (goat anti-rabbit IgG antibody HRP-conjugated, ab97051) was used at 1/10,000 dilution.

1. Arabidopsis leaf extract, 10 µg
2. Maize leaf extract, 10 µg

The molecular masses of mature forms of maize FNR1, FNR2 and FNR3 are 34.97, 35.57 and 34.7 kD, respectively (Ref 2)

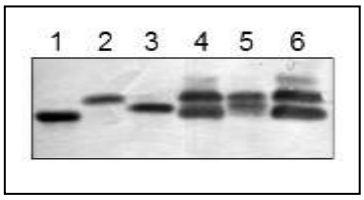

Fig.2 Comparison of recombinant and native L-FNRs in maize extracts.

Western blotting was performed with anti-L-FRN1 antibody at 1/500 dilution

1. Recombinant maize FNR1 (34.97 kD)
2. Recombinant maize FNR2 (35.57 kD)
3. Recombinant maize FNR3 (34.7 kD)
4. Chloroplast fraction
5. Stroma fraction
6. Thylakoids fraction

This antibody has cross-reactivity with other L-FNRs,

References: This product has been used in the following publication.

1. Onda Y, Matsumura T, Kimata-Ariga Y, Sakakibara H, Sugiyama T, Hase T. "Differential interaction of maize root ferredoxin:NADP(+) oxidoreductase with photosynthetic and non-photosynthetic ferredoxin isoproteins." Plant Physiol. 2000, Jul;123(3):1037-45. PMID: 10889253 **WB ; Maize**
2. Okutani S, Hanke GT, Satomi Y, Takao T, Kurisu G, Suzuki A, Hase T. "Three maize leaf ferredoxin:NADPH oxidoreductases vary in subchloroplast location, expression, and interaction with ferredoxin." Plant Physiol. 2005, Nov;139(3):1451-9. PMID: 16244136 **WB ; Maize**
3. Hanke GT et al. Multiple iso-proteins of FNR in *Arabidopsis*: evidence for different contributions to chloroplast function and nitrogen assimilation. Plant, Cell & Environment. 2005, 28 (9): 1146-1157. Link file **WB ; Arabidopsis**
4. Hanke GT, Endo T, Satoh F, Hase T. "Altered photosynthetic electron channelling into cyclic electron flow and nitrite assimilation in a mutant of ferredoxin:NADP(H) reductase." Plant Cell Environ. 2008, Jul;31(7):1017-28. PMID: 18410491 **WB ; Maize**
5. Twachtmann M, Altmann B, Muraki N, Voss I, Okutani S, Kurisu G, Hase T, Hanke GT. "N-terminal structure of maize ferredoxin:NADP+ reductase determines recruitment into different thylakoid membrane complexes. Plant Cell. 2012, Jul;24(7):2979-91. PMID: 22805436 **WB ; Maize, Arabidopsis**