Anti-Fd-GOGAT (Ferredoxin-dependent glutamate synthase, chloroplastic) antibody, rabbit polyclonal

81-025 100 µg

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

Immunogen: Purified recombinant maize Fd-GOGAT protein, full-size, no-tag attached

Form: 2 mg/ml in PBS- with 50% glycerol. Filter sterilized. No preservative or carrier protein added.

Purity: IgG, purified with protein A/G mix.

Reactivity: Fd-GOGAT including those of maize, arabidopsis, spinach, and cyanobacterium (Synechococcus)

Validation: Specificity has been validated by WB with recombinant full-size maize Fd-GOGAT protein

Applications:

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

Other applications have not been tested.

Background: Glutamine oxoglutarate aminotransferase (abbreviated as GOGAT) is an enzyme involved in synthesis of glutamate from glutamine and alpha-ketoglutarate. GOGAT has two forms in plants: ferredoxin-dependent GOGAT (Fd-GOGAT) and NADH-dependent GOGAT (NADH-GOGAT). 95% of GOGAT found in plants is the Fd-GOGAT type. Fd-GOGAT is encoded by two genes, glu1 and glu2 in Arabidopsis. Fd-GOGAT (both forms) is highly conserved among plants, red algae, and cyanobacteria. Ferredoxin-dependent glutamate synthase, chloroplastic (Fd-GOGAT) is involved in glutamate biosynthesis in leaf. This protein required for the reassimilation of ammonium ions generated during photorespiration. Gene name is GlsF.

Data Link:UniProtKB: P23225 (Z. mays), Q51579 (P. boryanum), P55038 (*Synechocystis sp.)*

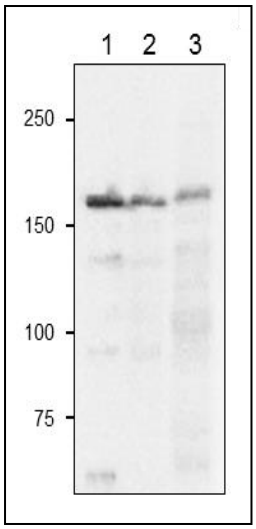

Fig.1 Western Blot of Fd-GOGAT in plant leaf extract.

1. Full-size recombinant maize Fd-GOGAT protein
2. Arabidopsis leaf extract, 10 µg
3. Maize leaf extract, 10 µg

Anti-Fd-GOGAT antibody was used at 1/2,500 dilution. Second antibody (goat anti-rabbit IgG antibody HRP-conjugated, ab97051) was used at 1/10,000 dilution.

Molecular masses of maize and arabidopsis Fd-GOGAT are 175 kDa and 168 kDa, respectively..

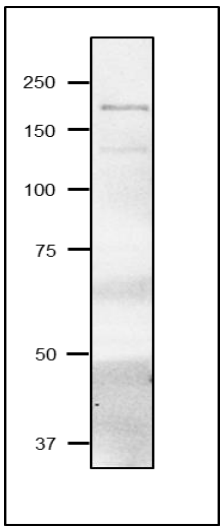

Fig.2 Western Blot of Fd-GOGAT in cyanobacterium

Sample: Crude extract of *Synechococcus* spp.6803
The Fd-GOGAT antibody was used at 1/2000 dilutions
Molecular mass is 169 kDa

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

1 Sakakibara H. et al. Molecular cloning and characterization of complementary DNA encoding for ferredoxin-dependent glutamate synthase in maize leaf. J Biol Chem. 1991 Feb 5;266(4):2028-35. PMID: 1989968. **WB; maize**

2. Sakakibara H., Kawabata S., Hase T. and Sugiyama T. (1992) Differential effects of nitrate and light on the expression of glutamine synthetase and ferredoxin-dependent glutamate synthase in maize. Plant Cell Physiol., 33, 1193-1198. Googl Scholar:abstract/33/8/1193/1860644 **WB; maize**

3.Kimata-Ariga Y and Hase T. Multiple complexes of nitrogen assimilatory enzymes in spinach chloroplasts: possible mechanisms for the regulation of enzyme function. PLoS One. 2014 Oct 1;9(10):e108965. PMID: 25271437 **WB;spinach**