

Anti-Deoxynivalenol [AbDON01] Standard Size Ab02933-23.0

This chimeric rabbit antibody was made using the variable domain sequences of the original Mouse Fab format for improved compatibility with existing reagents assays and techniques.

Isotype and Format: Rabbit IgG, Lambda

Clone Number: AbDON01

Alternative Name(s) of Target: DON; Mycotoxin; Vomitoxin, Fusarium mycotoxin; ChEBI: 10022; 1.3G2

UniProt Accession Number of Target Protein:

Published Application(s): ELISA

Published Species Reactivity: Fusarium species

Immunogen: The original antibody was generated by cloning the variable light and heavy chain genes of the anti-DON hybridoma were assembled into the scFv gene using a linker sequence (Gly4Ser)₃ by overlapping PCR. PCR amplified products were purified, treated with SfiI and NotI and cloned into phagemid expression pDisplay-2TM. The plasmid was used to transform E.coli HB2151 host cells and the soluble scFv was generated.

Specificity: This antibody is specific for mycotoxin deoxynivalenol (DON). This antibody also shows reactivity with other trichothecene mycotoxins like 15-acetyl-deoxynivalenol, HT-2 toxin, T-2 triol, nivalenol (NIV) and T-2 toxin/tri-acetyl-DON (Tri-Ac-DON) but it does not react with 3-acetyl-deoxynivalenol (3-Ac-DON), Fusarenone-X (FX), trichothecin, diacetoxyscirpenol (DAS), roridin A, and verrucarol. Deoxynivalenol belongs to the trichothecene class of mycotoxins, generated by several Fusarium fungi. Deoxynivalenol (DON), along with 3-acetyl-deoxynivalenol (3-ADON) and 15-acetyldeoxynivalenol (15-ADON), occur in grains and cereal products and is often hazardous to humans and livestock. Biochemically, deoxynivalenol is an inhibitor of protein synthesis and has hemolytic activity, causing apoptosis (cytotoxicity) and immunotoxicity to eukaryotic organisms. In animals, deoxynivalenol can cause anorexia and vomiting (PMID: 8896360; 16420629), and it can also cause human skin irritation, hemorrhaging, hematological changes, lymphocyte blastogenesis impairment, radiomimetic effects and apoptosis (PMID: 8896360; 16326049). In plants, deoxynivalenol is a virulence factor in the pathogenesis of G. zeae on wheat (PMID: 16420629).

Application Notes: The binding characterization of the scFv antibody and the whole IgG1 antibody was done using non-competitive indirect ELISA. To check the cross reactivity of the scFv version and whole IgG version with other members of trichothecene mycotoxins, competitive direct ELISA and biolayer

interferometry (BLI) was used (Maragos et al., 2012).

Antibody First Published in: Maragos et al. Production and characterization of a single chain variable fragment (scFv) against the mycotoxin deoxynivalenol. Food and Agricultural Immunology (2012), 23:1, 51-67. [PMID:](#)

Note on publication: Describes the generation of a single chain antibody fragment (scFv) antibody having reactivity towards deoxynivalenol.

Product Form

Size: 200 µg Purified antibody.

Purification: Protein A affinity purified

Supplied In: PBS with 0.02% Proclin 300.

Storage Recommendation: Store at 4°C for up to 3 months. For longer storage, aliquot and store at -20°C.

Concentration: 1 mg/ml.

Important note – This product is for research use only. It is not intended for use in therapeutic or diagnostic procedures for humans or animals.