

## Anti-Astrovirus 2 [PL-2] Standard Size Ab03163-10.3

This antibody was created using our proprietary Fc Silent™ engineered Fc domain containing key point mutations that abrogate binding to Fc gamma receptors.

This chimeric human antibody was made using the variable domain sequences of the original Mouse IgG2a format for improved compatibility with existing reagents assays and techniques.

**Isotype and Format:** Human IgG1, Fc Silent™, Kappa

**Clone Number:** PL-2

**Alternative Name(s) of Target:** Human astrovirus 2; HAstV-2; Capsid polyprotein VP90; Capsid protein; HAstV-2 capsid spike protein

**UniProt Accession Number of Target Protein:** Q82446

**Published Application(s):** crystallography, IP, Neutralizing;SPR, ELISA

**Published Species Reactivity:** Astrovirus 2

**Immunogen:** The original antibody was isolated by immunizing BALB/c mice with H-Ast-2 virus.

**Specificity:** The antibody binds to the surface of the HAstV-2 virion, which is formed by the virus capsid protein. The antibody binds to a conformation-dependent quaternary epitope on each side of the dimeric capsid spike. Strains of HAstV-2 (HAstV-2-Oxford, -RIVMa, -RIVMb, and -RIVMc) are resistant to neutralization by the antibody.

**Application Notes:** The original antibody (IgG2a) was used for immunofluorescence staining of H-Ast2-infected LLCMK2 cells. The antibody neutralizes HAstV serotype 2 (Sanchez-Fauquier et al., 1994; PMID: 7514320). The original antibody (IgG2a) and the scFv fragment bound to wheat germ extract containing recombinant HAstV-2 capsid protein, as confirmed by ELISA analysis. The crystal structure of the Fab fragment was determined. The scFv fragment was used to immunoprecipitate HAstV-2 capsid protein. This antibody could potentially be developed as a therapeutic and diagnostic agent (Bogdanoff et al., 2016; PMID: 27213181). The specificity of the antibody and scFv fragment for the HAstV-2 CP spike were confirmed by ELISA. The binding affinity of the Fab and scFv fragments towards the spike protein was found to be nearly identical (KD of 1.8 nM) using surface plasmon resonance. The structure of the HAstV capsid spike domain bound to the neutralizing scFv fragment was determined. The antibody blocked the attachment of recombinant HAstV-2 CP spike to Caco-2 cells supporting the hypothesis the antibody neutralizes HAstV by blocking virus attachment to cells (Bogdanoff et al., 2016; PMID: 27807234).

**Antibody First Published in:** Sanchez-Fauquier et al. Characterization of a human astrovirus serotype 2 structural protein (VP26) that contains an epitope involved in virus neutralization Virology. 1994

Jun;201(2):312-20. doi: 10.1006/viro.1994.1296. [PMID:7514320](#)

**Note on publication:** The paper describes the generation and characterization of the antibody.

## 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.