



# SZABO SCANDIC

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## Produktinformation



Forschungsprodukte & Biochemikalien



Zellkultur & Verbrauchsmaterial



Diagnostik & molekulare Diagnostik



Laborgeräte & Service

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### Lieferung & Zahlungsart

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### Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

### SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

[mail@szabo-scandic.com](mailto:mail@szabo-scandic.com)

[www.szabo-scandic.com](http://www.szabo-scandic.com)

[linkedin.com/company/szaboscandic](https://www.linkedin.com/company/szaboscandic) 

## Anti-Envelope protein [5A] Bulk Size Ab03416-23.0-BT

This full-length chimeric rabbit antibody was made using the variable domain sequences of the original Human ScFv format for improved compatibility with existing reagents assays and techniques.

**Isotype and Format:** Rabbit IgG, Kappa

**Clone Number:** 5A

**Alternative Name(s) of Target:** E protein; Envelope protein E; Genome polyprotein

**UniProt Accession Number of Target Protein:** P03314

**Published Application(s):** crystallography, functional assay, in vivo, IP, neutralize, ELISA

**Published Species Reactivity:** Yellow Fever Virus

**Immunogen:** The original antibody was generated by phage display method. Two antibody-phage libraries were constructed by repertoire cloning from yellow fever patients, subsequently pooled and panned with glycerol-purified non-inactivated YFV-17D virions.

**Specificity:** The antibody recognises a quaternary epitope on the envelope protein. The antibody does not bind to E proteins of ZIKV, DENV, or WNV.

**Application Notes:** The specificity of the scFv format of the antibody was confirmed by ELISA analysis. The antibody showed 50% and 100% neutralizing activity in plaque reduction neutralization assay (PRNT) using Vero cells against YFV strains 17D-204-WHO and Asibi at concentrations of approximately 1 µg/ml and 10 µg/ml, respectively. The antibody neutralized wild-type YFV strains of genotypes West Africa I (Nigeria 1987) and II (Asibi) and East/Central Africa (CAR 1986, Ethiopia 1961) with comparable efficiency in a PRNT on PS cells. Competitive ELISA showed that the scFv fragment competed for binding to YFV-17D virions with Ab02826. An immunoprecipitation assay with radiolabeled, purified YFV-17D virions was performed. The scFv fragment was found to precipitate a 55-kDa protein, corresponding to the molecular weight of the envelope glycoprotein (Daffis et al., 2005; PMID: 15919103). The structure of the scFv fragment of the antibody in complex with the E protein was determined. Surface plasmon resonance (SPR) experiments showed that the antibody bound to sE proteins from both YFV-17D and YFV-China with high affinities (KD values are 13.5 nM and 9.7 nM, respectively). The in vitro neutralizing activity for YFV was assessed using a modified fluorescence-activated cell sorting (FACS)-based assay in Vero cells. The antibody displayed extremely high neutralization activity against both YFV strains (IC<sub>50</sub>, 15 ng/mL and 6 ng/mL for YFV-China and YFV-17D, respectively). Mice treated with the antibody were completely protected against YFV-17D infection. Pre- and post-attachment neutralization assays were carried out in BHK-21 cells. In both cases the antibody efficiently neutralized the virus ((IC<sub>50</sub>= 19 ng/mL and IC<sub>50</sub>= 8 ng/mL

respectively). Finally, the antibody partially blocked pH-dependent fusion of YFV-17D with liposomes (IC50, 19 ng/mL) (Lu et al., 2019).

**Antibody First Published in:** Daffis et al. Antibody responses against wild-type yellow fever virus and the 17D vaccine strain: Characterization with human monoclonal antibody fragments and neutralization escape variants *Virology*. 2005 Jul 5;337(2):262-72. [PMID:15919103](https://pubmed.ncbi.nlm.nih.gov/15919103/)

**Note on publication:** Describes the generation, characterization and neutralizing capabilities of this antibody.

## Product Form

**Size:** 1 mg Purified antibody in bulk size.

**Purification:** Protein A affinity purified

**Supplied In:** PBS only.

**Storage Recommendation:** Store at 4°C for up to 3 months. Note, this antibody is provided without added preservatives, it is therefore recommended this antibody be handled under sterile conditions. 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.