

VapA (E-6): sc-390576

BACKGROUND

Rhodococcus equi is a Gram-positive bacterium that causes pyogranulomatous pneumonia in foals and immunocompromised humans. *R. equi* infection is the leading cause of foal death within the first six months of life. VapE (virulence associated protein VapE) is a 206 amino acid protein encoded by *R. equi* virulence plasmid, pREAT701 (p33701). There are seven virulence-associated proteins: VapA, VapC, VapD, VapE, VapF, VapG and VapH. Infected foals typically develop an immune response to *R. equi* infections, with the majority of infected foals expressing antibodies against VapA, with decreasing levels of expression for Vap D, F, G and H, respectively.

REFERENCES

1. Takai, S., et al. 2000. DNA sequence and comparison of virulence plasmids from *Rhodococcus equi* ATCC 33701 and 103. *Infect. Immun.* 68: 6840-6847.
2. Hooper-McGrevy, K.E., et al. 2003. Immunoglobulin G subisotype responses of pneumonic and healthy, exposed foals and adult horses to *Rhodococcus equi* virulence-associated proteins. *Clin. Diagn. Lab. Immunol.* 10: 345-351.
3. Kohler, A.K., et al. 2003. *Rhodococcus equi* secreted antigens are immunogenic and stimulate a type 1 recall response in the lungs of horses immune to *R. equi* infection. *Infect. Immun.* 71: 6329-6337.
4. Jain, S., et al. 2003. Deletion of VapA encoding virulence associated protein A attenuates the intracellular actinomycete *Rhodococcus equi*. *Mol. Microbiol.* 50: 115-128.

SOURCE

VapA (E-6) is a mouse monoclonal antibody raised against amino acids 29-189 mapping at the C-terminus of virulence associated protein VapA of *Rhodococcus equi* (strain: 103gb-synonym: *Corynebacterium equi* old-name: *Rhodococcus equi*) origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

VapA (E-6) is available conjugated to agarose (sc-390576 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390576 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390576 PE), fluorescein (sc-390576 FITC), Alexa Fluor® 488 (sc-390576 AF488), Alexa Fluor® 546 (sc-390576 AF546), Alexa Fluor® 594 (sc-390576 AF594) or Alexa Fluor® 647 (sc-390576 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390576 AF680) or Alexa Fluor® 790 (sc-390576 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

In addition, VapA (E-6) is available conjugated to biotin (sc-390576 B), 200 µg/ml, for WB, IHC(P) and ELISA.

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STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

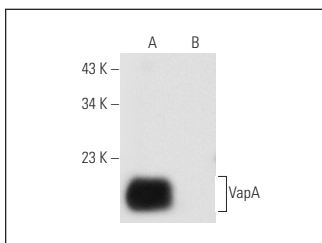
VapA (E-6) is recommended for detection of virulence associated protein VapA of *R. equi* origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Positive Controls: *Rhodococcus equi* whole cell lysate.

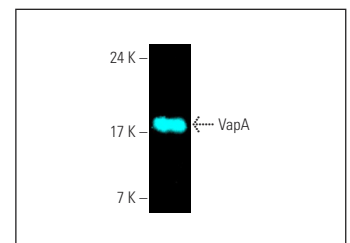
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BPHRP: sc-516102 or m-IgGκ BPHRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BPFITC: sc-516140 or m-IgGκ BPE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



VapA (E-6): sc-390576. Western blot analysis of VapA expression in *Rhodococcus equi* (A) and *Escherichia coli* (B) whole cell lysates. Note lack of reactivity with *E. coli* in Lane B.



VapA (E-6) Alexa Fluor® 647: sc-390576 AF647. Direct fluorescent western blot analysis of VapA expression in *R. equi* whole cell lysate. Blocked with UltraCruz® Blocking Reagent: sc-516214.

SELECT PRODUCT CITATIONS

1. von Bargen, K., et al. 2019. Virulence-associated protein A from *Rhodococcus equi* is an intercompartmental pH-neutralising virulence factor. *Cell. Microbiol.* 21: e12958.
2. Hansen, P., et al. 2022. Laboratory plasticware induces expression of a bacterial virulence factor. *mSphere* 7: e0031122.
3. Haubenthal, T., et al. 2023. Specific preadaptations of *Rhodococcus equi* cooperate with its virulence-associated protein A during macrophage infection. *Mol. Microbiol.* 119: 285-301.
4. Hansen, P., et al. 2023. Differential effects of *Rhodococcus equi* virulence-associated proteins on macrophages and artificial lipid membranes. *Microbiol. Spectr.* E-published.

RESEARCH USE

For research use only, not for use in diagnostic procedures.