



OmpU (bN-20): sc-17401

BACKGROUND

Cholera is a severe diarrheal disease caused by the bacterium *Vibrio cholerae*. *V. cholerae* produces cholera toxin, the model for enterotoxins, whose action on the mucosal epithelium is responsible for the characteristic diarrhea of cholera. *V. cholerae* is also an autochthonous inhabitant of riverine and estuarine environments, in addition to being a facultative pathogen for humans. In its extreme manifestation, cholera is one of the most rapidly fatal illnesses known. ToxR is the primary component of the regulon responsible for control of virulence in *Vibrio cholerae* and directly activates and represses the transcription of the outer membrane porins OmpU and OmpT. The 38 kDa outer membrane protein (OmpU) is a member of the ToxR regulon. OmpU has been shown to be a potential adherence factor, in addition to playing a role in the pathogenesis of cholera. VibH, a vibriobactin biosynthetic gene, encodes a novel nonribosomal peptide synthase that is required for vibriobactin biosynthesis.

REFERENCES

1. Sperandio, V., Giron, J.A., Silveira, W.D., and Kaper, J.B. 1995. The OmpU outer membrane protein, a potential adherence factor of *Vibrio cholerae*. *Infect. Immun.* 11: 4433-4438.
2. Sperandio, V., Bailey, C., Giron, J.A., DiRita, V.J., Silveira, W.D., Vettore, A.L., and Kaper, J.B. 1996. Cloning and characterization of the gene encoding the OmpU outer membrane protein of *Vibrio cholerae*. *Infect. Immun.* 12: 5406-5409.
3. Benz, R., Maier, E., and Chakraborty, T. 1997. Purification of OmpU from *Vibrio cholerae* classical strain 569B: evidence for the formation of large cation-selective ion-permeable channels by OmpU. *Microbiologia* 3: 321-330.
4. Crawford, J.A., Kaper, J.B., and DiRita, V.J. 1998. Analysis of ToxR-dependent transcription activation of OmpU, the gene encoding a major envelope protein in *Vibrio cholerae*. *Mol. Microbiol.* 1: 235-246.
5. Provenzano, D., Schuhmacher, D.A., Barker, J.L., and Klose, K.E. 2000. The virulence regulatory protein ToxR mediates enhanced bile resistance in *Vibrio cholerae* and other pathogenic *Vibrio* species. *Infect. Immun.* 3: 1491-1497.
6. Rivera, I.N., Chun, J., Huq, A., Sack, R.B., and Colwell, R.R. 2001. Genotypes associated with virulence in environmental isolates of *Vibrio cholerae*. *Appl. Environ. Microbiol.* 6: 2421-2429.
7. Wyckoff, E.E., Smith, S.L., and Payne, S.M. 2001. VibD and VibH are required for late steps in vibriobactin biosynthesis in *Vibrio cholerae*. *J. Bacteriol.* 5: 1830-1834

SOURCE

OmpU (bN-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of OmpU of *V. cholerae* origin.

STORAGE

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

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-17401 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

OmpU (bN-20) is recommended for detection of OmpU of *V. cholerae* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.