**Product Information Sheet for NR-333**

**Rickettsia rickettsii, Strain Smith**

**Catalog No. NR-333**
(Derived from ATCC® VR-149™)

For research use only. Not for human use.

**Contributor:**
ATCC®

**Product Description:**

**Bacteria Classification:** Rickettsiaceae, Rickettsia  
**Species:** Rickettsia rickettsii  
**Type Strain:** Smith (Sheila Smith, VR-149)  
**Original Source:** Rickettsia rickettsii (R. rickettsii), strain Smith was isolated from a human with Rocky Mountain spotted fever in Missoula, Montana, 1946.1  
**Comments:** R. rickettsii, strain Smith was deposited to the ATCC® from the collection of Dr. F. Marilyn Bozeman.

R. rickettsia is a member of the spotted fever group of Rickettsiae and the etiologic agent of Rocky Mountain spotted fever (RMSF). R. rickettsia is an intracellular Gram-negative pathogen that is transmitted to a human host via interaction with an infected tick (commonly Dermacentor variabilis and Dermacentor andersoni in the USA). The tick acts as both a natural reservoir and a vector for disease transmission. The disease is characterized by a spotted rash and has a high mortality rate if it is not treated. RMSF responds well to treatment with doxycycline if diagnosis is not delayed.2

R. rickettsii, strain Smith is an R-type isolate. R-type isolates are the most pathogenic and cause severe infection accompanied by long-lasting fever and scrotal reactions in guinea pigs. Additionally these isolates caused mortality in 30% of infected animals.3 The complete genome of R. rickettsii, strain Smith has been sequenced (GenBank: CP000848).4

**Material Provided:**

Each vial contains approximately 1 mL of cell lysate and supernatant from African green monkey kidney cells (Vero; ATCC® CCL-81™) infected with R. rickettsii, strain Smith.

**Note:** If homogeneity is required for your intended use, please purify prior to initiating work.

**Packaging/Storage:**

NR-333 was packaged aseptically in screw-capped plastic cryovials. The product is provided frozen and should be stored at -60°C or colder immediately upon arrival. For long-term storage, the vapor phase of a liquid nitrogen freezer is recommended. Freeze-thaw cycles should be avoided.

**Growth Conditions:**

**Host:** Vero cells (ATCC® CCL-81™)  
**Growth Medium:** Minimum Essential Medium with Earle’s salts supplemented with 10% irradiated fetal bovine serum, 2 mM L-glutamine and 1 mM sodium pyruvate  
**Infection:** Cells should be 80 to 90% confluent (not 100% confluent)  
**Incubation:** 5 to 10 days at 37°C and 5% CO₂  
**Cytopathic Effect:** Cell rounding and sloughing

**Citation:**

Acknowledgment for publications should read “The following reagent was obtained through the NIH Biodefense and Emerging Infections Research Resources Repository, NIAID, NIH: Rickettsia rickettsii, Strain Smith, NR-333.”

**Biosafety Level:** 3


**Disclaimers:**

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