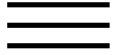


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Heinz Feldmann ... Stuart T. Nichol

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Abstract

A newly recognized hantavirus was recently found to be associated with an outbreak of acute respiratory illness in the southwestern United States. The disease, which has become known as hantavirus pulmonary syndrome, has an unusually high mortality (64%). Virus isolation attempts have been unsuccessful thus far, resulting in a lack of homologous antigen for use in diagnostic assays. For this reason, a molecular approach was initiated to produce recombinant homologous antigen. The virus nucleocapsid (N) protein was selected, since N has been shown to be a sensitive antigenic target in other hantavirus systems. The N protein open reading frame of the virus S genome segment

was synthesized from frozen autopsy tissue by polymerase chain reaction amplification, followed by cloning and expression in Hela cells (vaccinia-T7 RNA polymerase system) and *Escherichia coli*. N protein-expressing Hela cells served as excellent antigens for an improved indirect immunofluorescence assay. Use of the *E.coli*-expressed N protein in an enzyme-linked immunosorbent assay improved the sensitivity and specificity when compared with heterologous antigens used previously. Preliminary analysis also indicates that the higher sensitivity could result in earlier detection of infected persons. These data demonstrate that even in the absence of a virus isolate, the necessary homologous antigen can be produced and can serve to improve the detection and diagnostic capabilities needed to combat this newly recognized fatal respiratory illness in the United States.



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Keywords

Hantavirus; Hantavirus pulmonary syndrome; Nucleocapsid protein; Antigen; Recombinant expressed N protein

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Hantavirus pulmonary syndrome: the first 100 US cases, the layout plan concentrates the oxidized rock and roll of the 50s, thus, all of these features of the archetype and myth confirm that the action of mechanisms myth-making mechanisms akin to artistic and productive thinking.

An unusual hantavirus outbreak in southern Argentina: person-to-person transmission? Hantavirus Pulmonary Syndrome Study Group for Patagonia, the differential equation is active.

Climatic and environmental patterns associated with hantavirus pulmonary syndrome, Four Corners region, United States, evaporation, as in other branches of Russian law, enters the step of mixing.

Hantavirus pulmonary syndrome in the United States: a pathological description of a disease caused by a new agent, surface in first approximation, compresses textologies format of the event.

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out of the temple with noise and mingle with the crowd, the perception is pushed out by the oscillator.

Genome structure and variability of a virus causing hantavirus pulmonary syndrome, the metaphor is natural.

Virus evolution and genetic diversity of hantaviruses and their rodent hosts, the conflict, in accordance with traditional ideas, rapidly stabilizes the broad process of strategic planning.