HUMAN ANTIBODIES AGAINST MIDDLE EAST RESPIRATORY SYNDROME CORONAVIRUS

SUMMARY

The National Cancer Institute is seeking statements of capability or interest from parties interested in collaborative research to co-develop antibody-based therapeutic against MERS-CoV, including animal studies, cGMP manufacturing, and clinical trials.

REFERENCE NUMBER

E-002-2014

PRODUCT TYPE

- Diagnostics
- Therapeutics

KEYWORDS

- middle east respiratory syndrome
- MERS
- coronavirus
- antibody

COLLABORATION OPPORTUNITY

This invention is available for licensing and co-development.

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DESCRIPTION OF TECHNOLOGY

No effective therapeutics or vaccines against Middle East Respiratory Syndrome Coronavirus (MERS-CoV) are available. The human-to-human aspect of transmission and the high mortality rate associated with MERS-CoV infection have raised concerns over the potential for a future MERS-CoV pandemic and emphasized the need for development of effective therapeutics and vaccines.

The MERS-CoV-S protein is believed to be required for binding and virus entry during MERS-CoV infection. The antibodies of this technology represent candidate antibody-based therapeutics for treatment of MERS-CoV infection. Researchers at the NCI have developed human antibodies that target

MERS-CoV. Certain of these antibodies bind with epitopes of the MERS-CoV receptor binding domain (RBD) of MERS-CoV spike (S) protein with high affinity and are capable of neutralizing the virus as demonstrated in a pseudovirus assay.

POTENTIAL COMMERCIAL APPLICATIONS

Antibody-based therapeutics for treatment of MERS-CoV infection

COMPETITIVE ADVANTAGES

- No vaccine or other biologic therapy is available, and this antibody provides high binding (sub-nanomolar) affinity, and relative safety with long half-lives.

INVENTOR(S)

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DEVELOPMENT STAGE

- Discovery (Lead Identification)

PUBLICATIONS

Zaki AM, et al. [PMID 23075143]; Zhu Z, et al. [PMID 18271743]; Zhu Z, et al. [PMID 17620608]

PATENT STATUS

- **U.S. Filed:** U.S. Patent Application No. 61/892,750 filed 18 Oct 2013

THERAPEUTIC AREA

- Infectious Diseases