Product Information Sheet for NR-12200

Escherichia coli Virulence Target *invE* Primers

Catalog No. NR-12200

This reagent is the tangible property of the U.S. Government.

For research use only. Not for human use.

Contributor and Manufacturer:

BEI Resources

Product Description:

Diarrheagenic *Escherichia coli* (*E. coli*) are classified into several pathogenic groups based on their virulence characteristics. NR-12200 contains forward and reverse primers that specifically amplify a region of the virulence target *invE* found on plasmid pINV of enteroinvasive *E. coli* (EIEC).

Material Provided:

Each vial contains approximately 100 µL of a mixture of forward and reverse primers in TE buffer (pH 7.0). The concentration is shown on the Certificate of Analysis.

Note: *E. coli* 12-Target Multiplex PCR 10X Buffer (BEI Resources NR-13440) will be provided with your shipment of NR-12200.

Packaging/Storage:

Primers were packaged aseptically in screw-capped plastic cryovials. The product is provided frozen on dry ice and should be stored at -60°C or colder upon arrival. Freeze-thaw cycles should be minimized.

Citation:

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: *Escherichia coli* Virulence Target *invE* Primers, NR-12200."

Biosafety Level: 1

Appropriate safety procedures should always be used with this material. Laboratory safety is discussed in the following publication: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, and National Institutes of Health. Biosafety in Microbiological and Biomedical Laboratories. 5th ed. Washington, DC: U.S. Government Printing Office, 2009; see www.cdc.gov/biosafety/publications/bmbl5/index.htm.

Disclaimers:

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References:

1. Kimata, K., et al. "Rapid Categorization of Pathogenic *Escherichia coli* by Multiplex PCR." Microbiol. Immunol. 49 (2005): 485-492. PubMed: 15965295.
2. Harris, J. R., I. K. Wachsmuth, B. R. Davis, and M. L. Cohen. "High-Molecular-Weight Plasmid Correlates with *Escherichia coli* Enteroinvasiveness." Infect. Immun. 37 (1982): 1295-1298. PubMed: 6752026.
3. Hsia, R.-C., P. L. C. Small, and P. M. Bavoil. "Characterization of Virulence Genes of Enteroinvasive *Escherichia coli* by Tn*phoA* Mutagenesis: Identification of *invX*, a Gene Required for Entry into HEp-2 Cells." J. Bacteriol. 175 (1993): 4817-4823. PubMed: 8393007.
4. Lan, R., et al. "Molecular Evolutionary Relationships of Enteroinvasive *Escherichia coli* and *Shigella* spp." Infect. Immun. 72 (2004): 5080-5088. PubMed: 15322001.

Support Provided by NIAID

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APPENDIX I

E. coli Virulence Target *invE* Primers

Recommended Reagents/Equipment

Reagent	Source	Catalog #
E. coli Virulence Target *invE* Primers	BEI Resources	NR -12200
Positive Control Template, Genomic DNA from *E. coli*, Strain 1885-77 (EDL1282)	BEI Resources	NR-3051
10X PCR Buffer	BEI Resources	NR-13440
GoTaq® Polymerase	Promega	M500B
dNTP Mix	Promega	U151
Molecular Biology Grade Water	ATCC®	60-2645

Reaction Mix[1]

Reagent	Stock Concentration	Volume per Reaction (µL)
Molecular Biology Grade Water	---	19.2
10X PCR Buffer	10X	3
dNTP Mix	10 mM each	0.6
GoTaq® Polymerase	---	0.2
Primers[2]	10 µM (each primer)	5
Template DNA	1 ng per µL	2
		Total – 30 µL

[1]Reaction mix should be kept on bench-top cooler until ready for use.
[2]Primers are supplied at working stock concentrations.

Cycling Protocol

Cycle	# of Repeats	Step	Conditions
1	1	1	94°C for 5 minutes
2	30	1	94°C for 1 minute
		2	52°C for 1 minute
		3	72°C for 1 minute
3	1	1	72°C for 7 minutes
4	Indefinite	1	Hold at 4°C

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