Intimin Gamma C-terminal Extracellular Domain from *Escherichia coli* O157:H7 with N-terminal Histidine Tag, Expressed in *Escherichia coli*

Catalog No. NR-12192

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Contributor and Manufacturer:

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Product Description:

NR-12192 is a recombinant form of the C-terminal extracellular domain of the *Escherichia coli* (*E. coli*) O157:H7 outer membrane protein intimin gamma. Intimin, encoded by the *eae* gene, is an adhesin that is required for adherence of enterohemorrhagic *E. coli* (EHEC) to human epithelial cells and colonization of experimentally infected animals.[1,2] The protein sequence is shown in Table 1 and includes an N-terminal hexa-histidine tag and amino acid residues 654 to 934 of intimin gamma from the 86-24 strain of EHEC O157:H7 (GenPept: NP_290259).[3,4] The recombinant protein was expressed in *E. coli* and purified by nickel affinity chromatography. NR-12192 has a theoretical molecular weight of 31,583 daltons.

Material Provided:

Each vial contains approximately 500 µg of NR-12192 in PBS. The concentration, expressed as mg per mL, is shown on the Certificate of Analysis.

Packaging/Storage:

NR-12192 was packaged aseptically in cryovials. The product is provided frozen on dry ice and should be stored at -60°C or colder immediately upon arrival. Freeze-thaw cycles should be avoided.

Functional Activity:

NR-12192 reacts with rabbit polyclonal antibody to *E. coli* intimin gamma (BEI Resources NR-12194) as shown by Western blot analysis.

Citation:

Acknowledgment for publications should read "The following reagent was obtained through the NIH Biodefense and Emerging Infections Research Resources Repository, NIAID, NIH: Intimin Gamma C-terminal Extracellular Domain from *Escherichia coli* O157:H7 with N-terminal Histidine Tag, Expressed in *Escherichia coli*, NR-12192."

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.

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References:

1. Donnenberg, M.S., et al. "The Role of the *eae* Gene of Enterohemorrhagic *Escherichia coli* in Intimate Attachment *In Vitro* and in a Porcine Model." J. Clin. Invest. 92 (1993): 1418-1424. PubMed: 8376595.
2. McKee M. L., et al. "Enterohemorrhagic *Escherichia coli* O157:H7 Requires Intimin To Colonize the Gnotobiotic Pig Intestine and to Adhere to HEp-2 Cells" Infect. Immun. 63 (1995): 3739-3744. PubMed: 7642319.

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3. Gansheroff, L. J., et al. "Decreased Adherence of Enterohemorrhagic *Escherichia coli* to HEp-2 Cells in the Presence of Antibodies that Recognize the C-terminal Region of Intimin." Infect. Immun. 67 (1999): 6409-6417. PubMed: 10569757.
4. A. D. O'Brien and J. F. Sinclair, personal communication.

Support Provided by NIAID

Table 1 - Predicted Protein Sequence					
1	MRGSHHHHHH	GSSDQTKASI	TEIKADKTTA	VANGKDAIKY	TVKVMKNGQP
51	VNNQSVTFST	NFGMFNGKSQ	TQATTGNDGR	ATITLTSSSA	GKATVSATVS
101	DGAEVKATEV	TFFDELKIDN	KVDIIGNNVR	GELPNIWLQY	GQFKLKASGG
151	DGTYSWYSEN	TSIATVDASG	KVTLNGKGSV	VIKATSGDKQ	TVSYTIKAPS
201	YMIKVDKQAY	YADAMSICKN	LLPSTQTVLS	DIYDSWGAAN	KYSHYSSMNS
251	ITAWIKQTSS	EQRSGVSSTY	NLITQNPLPG	VNVNTPNVYA	VCVE

Non-intimin residues are underlined.