

Bacillus anthracis* Superoxide Dismutase SOD15 (Locus_Tag: BA_1489) with N-terminal Histidine Tag, Recombinant from *Escherichia coli

Catalog No. NR-12128

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Contributor and Manufacturer:

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Product Description:

NR-12128 is a truncated recombinant form of the *Bacillus anthracis* (*B. anthracis*) superoxide dismutase SOD15 (locus_tag: [BA_1489](#)). SOD15 is one of the superoxide dismutases present in the outermost layers of the spore and helps to provide *B. anthracis* protection against oxidative stress and enhance pathogenicity in the lung.^{1,2} The amino acid sequence includes 1) an N-terminal hexa-histidine tag 2) a thrombin cleavage site and 3) amino acid residues 1 to 8 and 105 to 304 of SOD15 from the Ames strain of *B. anthracis* (GenPept: AAP25428).³ The recombinant protein was expressed in *Escherichia coli* and purified by nickel affinity chromatography. NR-12128 has a theoretical molecular weight of approximately 27 kilodaltons.

Material Provided:

Each vial contains approximately 10 µg of NR-12128 in PBS. The concentration, expressed as mg per mL, is shown on the Certificate of Analysis.

Packaging/Storage:

NR-12128 was packaged aseptically in cryovials. The product is provided frozen on dry ice and should be stored at -80°C or colder immediately upon arrival. Freeze-thaw cycles should be avoided.

Functional Activity:

NR-12128 reacts with rabbit polyclonal antibody to *B. anthracis* SOD15 (BEI Resources NR-12129) 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: *Bacillus anthracis* Superoxide Dismutase SOD15 (Locus_Tag: BA_1489) with N-terminal Histidine Tag, Recombinant from *Escherichia coli*, NR-12128."

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/bmb15/index.htm.

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References:

1. Cybulski, R. J., et al. "Four Superoxide Dismutases Contribute to *Bacillus anthracis* Virulence and Provide Spores with Redundant Protection from Oxidative Stress." *Infect. Immun.* 77 (2009): 274-285. PubMed: 18955476.
2. Cybulski, R. J., et al. "Recombinant *Bacillus anthracis* Spore Proteins Enhance Protection of Mice Primed with Suboptimal Amounts of Protective Antigen." *Vaccine* 26 (2008): 4927-4939. PubMed: 18657585.

3. Read, T. D., et al. "The Genome Sequence of *Bacillus anthracis* Ames and Comparison to Closely Related Bacteria." *Nature* 423 (2003): 81-86. PubMed: 12721629. GenPept: [AAP25428](#).

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|-----|-------------------|-------------------|------------|------------|------------|
| 1 | <u>MGSSHHHHHH</u> | <u>SSGLVPRGSH</u> | MSQQGVFTLP | PLPYPYNALE | PYISREIMML |
| 51 | HDKHRSYV | EGLNKAEKMM | EEARKTNQFD | LIKHWEREAA | FHGSGHYLHT |
| 101 | IFWNNMKGKGG | GGSPRGALSH | RIEQDFGSFL | RFQKHFTEAA | SKVEGSGWAI |
| 151 | LVWVPRSGRL | EILQSTLHQL | FTQWDTIPLL | VLDVWEHAYY | LQYQNRKDEY |
| 201 | IKNWWNVVNW | PDVEKRFESA | KQIEWTPY | | |

Non-SOD15 residues are underlined.