Paenibacillus polymyxa, Strain NCIB 8158

Catalog No. NR-52263
(Derived from ATCC® 842™)

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Contributor:
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Product Description:
Bacteria Classification: *Paenibacillaceae*, *Paenibacillus*
Species: *Paenibacillus polymyxa* (formerly *Bacillus polymyxa*)[1,2]
Strain: NCIB 8158 (also referred to as DSM 36, NCTC 10343; NRS 1105)
Original Source: *Paenibacillus polymyxa (P. polymyxa)*, strain NCIB 8158 originates from the culture collection belonging to A. J. Kluyver.[3,4]
Comments: The complete genome of *P. polymyxa*, strain NCIB 8158 has been sequenced (GenBank: AFOX00000000.1).[4]

P. polymyxa is a Gram-positive, spore-forming, motile bacillus found in soil. It is a plant-growth-promoting rhizobacteria (PGPR) owing to its ability to fix nitrogen and solubilize phosphorus in soil, as well as its production of hydrolytic enzymes and plant hormones, such as cytokinin and auxin.[5,6,7] *P. polymyxa* has potential use in bioremediation and in production of pesticides and antibiotics, including colistin.[6,7]

Material Provided:
Each vial contains approximately 0.5 mL of bacterial culture in Nutrient broth supplemented with 10% glycerol.

Note: If homogeneity is required for your intended use, please purify prior to initiating work.

Packaging/Storage:
NR-52263 was packaged aseptically in cryovials. The product is provided frozen and should be stored at -60°C or colder immediately upon arrival. For long-term storage, the vapor phase of a liquid nitrogen freezer is recommended. Freeze-thaw cycles should be avoided.

Growth Conditions:
Media:
Nutrient broth or Tryptic Soy broth or equivalent
Nutrient agar or Tryptic Soy agar or equivalent
Incubation:
Temperature: 30°C
Atmosphere: Aerobic
Propagation:
1. Keep vial frozen until ready for use, then thaw.
2. Transfer the entire thawed aliquot into a single tube of broth.
3. Use several drops of the suspension to inoculate an agar slant and/or plate.
4. Incubate the tube, slant and/or plate at 30°C for 1 day.

Citation:
Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: *Paenibacillus polymyxa,* Strain NCIB 8158, NR-52263."

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:

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3. Smith, N. R., et al. "Type Cultures and Proposed Neotype Cultures of Some Species in the Genus Bacillus." J. Gen. Microbiol. 34 (1964): 269-272. PubMed: 14135533.

4. Jeong, H., et al. "Draft Genome Sequence of the *Paenibacillus polymyxa* Type Strain (ATCC 842[T]), a Plant Growth-Promoting Bacterium." J. Bacteriol. 193 (2011): 5026-5027. PubMed: 21742878.

5. Timmuska, A., et al. "Cytokinin Production by *Paenibacillus polymyxa*." Soil Biol. and Biochem. 31 (1999): 1847-1852.

6. Grady, E. N., et al. "Current Knowledge and Perspectives of Paenibacillus: A Review." Microb. Cell Fact. 15 (2016): 203. PubMed: 27905924.

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