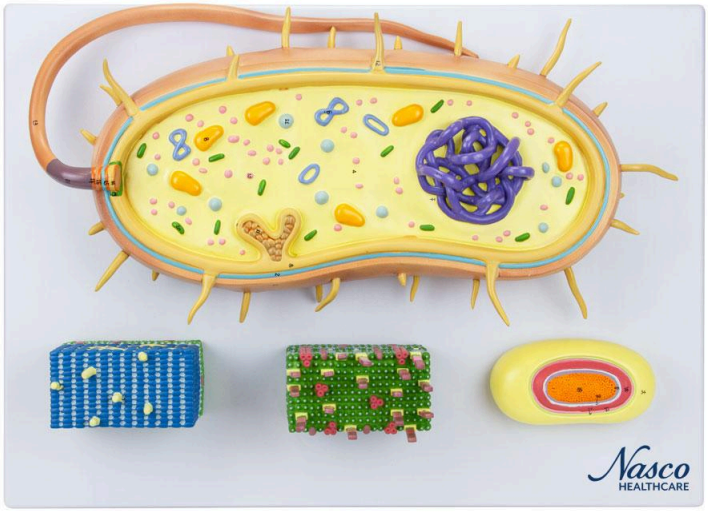
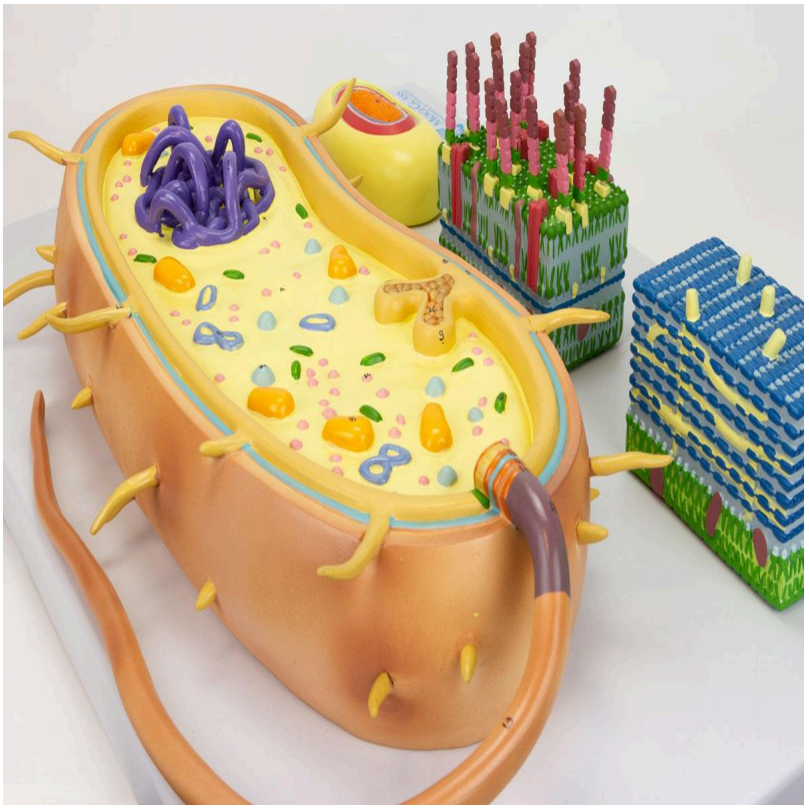
MG4614 | BACTERIUM ANATOMY





A four-part anatomical model of an enlarged bacterium on a single base, representing a prokaryotic cell with detailed internal and external structures, including cross-sections and schematic representations of Gram-positive and Gram-negative bacterial cell walls, plus a sectioned spore model.

Applications:
Ideal for the study of the cellular system in schools and universities; surgical dissection training; classrooms; patient education; procedure demonstrations; medical and scientific information.

Technical Advantages:
Detailed representation of cellular structures; precision manufacturing; high-quality natural molding; made of stable synthetic material; hand-numbered and painted; includes an information card with related structures; enlarged several times the natural size; resin approved in toxicological tests; model attached to a resistant resin base.

3D Technology and Augmented Reality:
Our anatomical models offer a visual complement through information cards that activate 3D models viewable in augmented reality (AR). This interactive platform aids learning, allowing comparative analysis of anatomical structures and offering resources for continuing education in anatomy, physiology, and pathophysiology.

Technical Specifications:
Material: Resin; Scale: Enlarged several times the natural size; Includes information card.

Main Structures:
Exosporium: Outermost layer of the bacterial spore, protecting it from environmental damage. It is a thin and delicate structure composed of proteins and other macromolecules.

Cortex: Thick and dense layer located below the exosporium in the bacterial spore, composed mainly of peptidoglycan and dipicolinic acid, contributing to the spore's resistance to desiccation and heat.

Cytoplasmic Membrane: Thin membrane that surrounds the cytoplasm of the bacterial cell, regulating the transport of substances between the inside and outside of the cell. It is composed mainly of a lipid bilayer with integral and peripheral proteins.

Spore Wall: Rigid layer surrounding the core of the bacterial spore, protecting it from mechanical and chemical damage. Its composition varies depending on the bacterial species.

Spore Coat: Protective layer located between the exosporium and the spore wall, contributing to the spore's resistance.

Core: Central part of the bacterial spore, containing the DNA and other essential cellular structures, maintained in a dormant state.

Peptidoglycan (Gram-positive Cell Wall): Main component of the cell wall of Gram-positive bacteria, a rigid structure that provides structural support and protection to the cell.

Lipoprotein (Gram-negative Cell Wall): Lipid-bound protein, anchoring the outer membrane to the peptidoglycan layer in the cell wall of Gram-negative bacteria.

Outer Membrane (Gram-negative Cell Wall): Additional membrane external to the cell wall of Gram-negative bacteria, composed of a lipid bilayer containing lipopolysaccharide (LPS) and porins.

Flagellum: Long, filamentous appendage responsible for bacterial locomotion.

Cytoplasm: Gelatinous matrix filling the interior of the bacterial cell, containing ribosomes, DNA, and other cellular structures.

Other structures can be verified directly on the physical piece or on the interactive 3D model.

About the Anatomical Models:
They are developed with resin replication technology, meeting the demand for anatomical pieces for teaching and research. They present the essential morphological characteristics with excellent cost-benefit, good resistance, hand painting, and numbering for precise identification of structures.

List of all visible structures:

- Exosporium
- Cortex
- Cytoplasmic membrane
- Inner spore layer
- Outer spore coat
- Spore wall
- Core
- Peptidoglycan
- Lipoprotein
- Phospholipid
- Protein
- Porin
- Protein
- Lipid A
- Peptidoglycan
- Teichoic acid
- Exosporium
- Protein
- Teichoic acid
- Outer membrane
- Cell wall
- Inclusion
- Mesosome
- Protein granule
- C-ring
- S-M-ring
- P-ring
- L-ring
- Hook
- Flagellum
- PHB granule
- Ribosome
- Polyphosphate granule

- Plasmid
- Cytoplasm
- Pilus
- Nucleoid
- DNA