



Culture Collection of Genus *Bacillus* and Correlated Genera – CCGB

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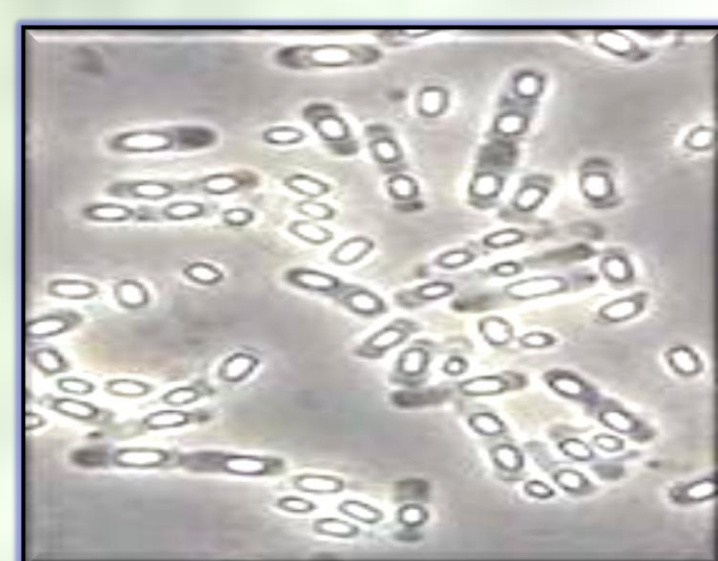
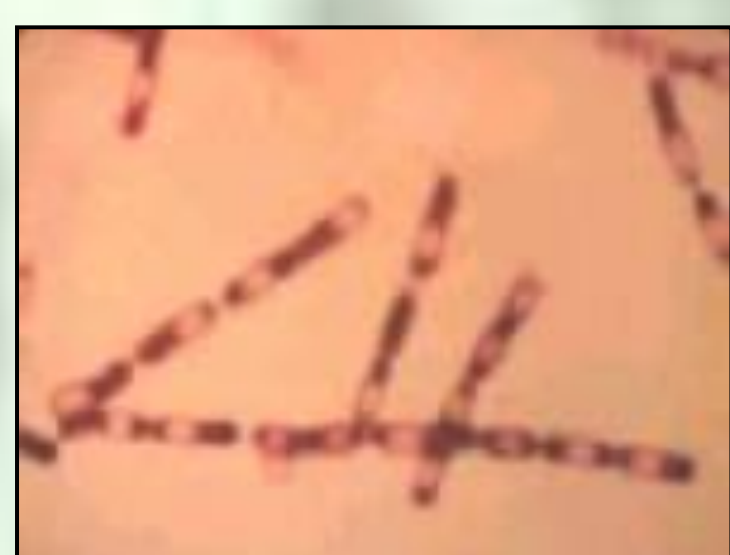
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Summary:

A recent publication originally from the Subcommittee on the Taxonomy of the Genus *Bacillus* and Related Organisms-STGB of the International Committee on Systematics of Prokaryotes has proposed a minimal standard for describing new taxa within the aerobic endospore-forming bacteria. Such minimal standard were recently recommended as guidelines to help preparation of descriptions for novel taxa. These guidelines will help laboratories and culture collections in the routine diagnostic of species (Logan, et al., 2009 - Int J Syst Evo Microbiol., 59: 2114) mainly in those using identification services. Following isolation "number of strains to be studied for each taxon should be at least five", cultivation, standardization and reference strains and related species are consulted wherever possible (Logan, et al., 2009, *locus cite*), microscopic morphology and phase-contrast microscopy at x1000 magnification is still recommended, however higher magnification may be possible with some microscopy systems which are useful for observations of parasporal bodies as well as measurements of cell dimensions. For *Bacillus* and related aerobic endospore-forming bacteria, dimensions like of spores, vegetative cells including sporangium may follow these necessary observations which must be kept registered. It includes length and width dimensions predominantly of cells and spores, types of sporangium (cylindrical, elliptic and spherical), predominant position inside sporangium with or without distension of cell wall (Bergey's Manual of Systematic Bacteriology, 1986). All these initial step procedures for describing new taxa or identification and characterization of Genus *Bacillus* and related Genera are routinely used in Coleção de Culturas do Gênero *Bacillus* e Gêneros Correlatos of the Instituto Oswaldo Cruz, FIOCRUZ (a specialized collection for *Bacillus* and correlate Genus), which gives good results and warranty for further identifications tests.

Introduction:

The current Culture Collection of *Bacillus* and Related Genera (CCGB) was created in 1979, at the time it began to perform its activities by collecting *Bacillus* specimens bearing amyolytic, proteolytic and antibiotic properties. Strains were isolated from the environment, according to the specific program from Bacterial Physiology Laboratory (LFB). As of the mid-80's, this program also covered entomopathogenic bacteria. The Oswaldo Cruz Institute (IOC) from Oswaldo Cruz Institution (Fiocruz), acknowledged it in 1986. In 1988 it was included in the set of National Culture Collections for taking part in the Collection Project sponsored by the Federal Financing Agency for Studies and Projects (FINEP) and Brazil's National Scientific and Technological Development Fund (Fundo Nacional para o Desenvolvimento Científico e Tecnológico-FNDCT), and joined World Federation for Culture Collections - WFCC in 1989. The first printed version of the catalogue of strains was published in 1992. In 2002, the CCGB became part of a specific project from Fiocruz in order to perform the collection of microorganisms of biotechnological interest from Oswaldo Cruz Institute, an association between the Brazilian Ministry of Science and Technology and FINEP. Currently, it is the trustee of the Brazilian Ministry of the Environment and it will be member of Biological Resource Center of Fiocruz. Currently, the collection is comprised of 1.538 lyophilized strains, carrying out a total of 15.380 copies under constant maintenance. There are twenty species of *Bacillus* and related sporulated genera, covering new genera of aerobic sporulating, facultative aerobes and Gram-positive bacteria, such as: *Paenibacillus*, *Brevibacillus*, *Lysinibacillus*, *Oceanobacillus*, *Virgibacillus* and *Halobacillus*. It also maintains reference strains or type strains and others, which are used in taxonomic studies concerning human health and in industry and educational-related areas. The catalogue published in 2005 also refers to microbiological services performed by this collection and it is comprised of appendices of supplementary information on preserved strains activation, culture conditions and recommended culture media.



CONTACT

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What we do:

Storage of Cultures:

It is performed by engaged specialists in microbiology by means of prior agreements.

Catalogued strains request:

It may be performed by accredited users who are authorized to request through his institute or university if the technical data is found in the "Lineage Catalogue of Culture Collection of *Bacillus* and Related Genera CCGB, or in collection's homepage, aiming at the accurate identification of the microorganism. Catalogued strains will be supplied by lineage and a different kind of compensation can also be agreed. A grantor-trustee may request a copy of the strain included by him, without expenses.

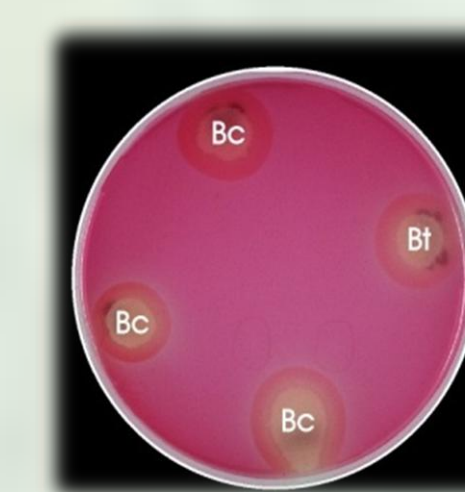
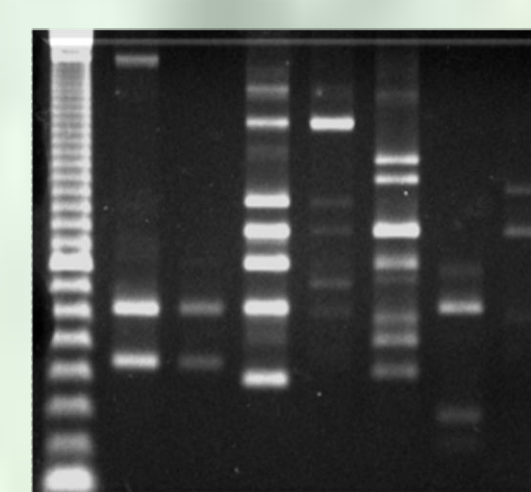
Catalogued strains supply: are provided under lyophilized conditions in ampoules or vials, when it is available in stock. Alternatively, they can also be provided with spores impregnating dry filter papers, covered by layers of aluminum foil, enveloped and sealed in surgical paper. For safety reasons and health protection, the cultures will not be delivered to private and residential addresses, but it will be delivered instead in qualified microbiological laboratories in compliance with the law in force.

Maintenance and preservation of cultures: preserves and maintains species of *Bacillus* and related genera by dehydration, mainly by lyophilization. In some cases, they are preserved in dry soil. The lyophilized cultures are kept under vacuum in amber vials, and are hermetically sealed and stored in a refrigerator. Hereafter, the collection will duplicate using liquid nitrogen cryopreservation in liquid or gaseous phase.



Taxonomic characterization of *Bacillus* and related genera:

performs specialized services of taxonomic identification of *Bacillus* and related genera for users, using phenotypical, biochemical, physiological and genotypical analysis.



Scientific Staff

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