

THE BIG BREAKUP OF *Lactobacillus*

Scientists re-classify one genus into twenty-five genera

The *Lactobacillus* genus contained over 250 species. New DNA-based analytical tools enabled scientists to see that the species historically grouped under *Lactobacillus* were very genetically diverse and did not adhere to nomenclature conventions. Applying the most current methods, a global group of scientists collaborated to divide this genus into groups of closely related species—which share certain physiological and metabolic properties—under new genus names.

New names for some prominent *Lactobacillus* probiotic species

Current name	New name
<i>Lactobacillus casei</i>	<i>Lacticaseibacillus casei</i>
<i>Lactobacillus paracasei</i>	<i>Lacticaseibacillus paracasei</i>
<i>Lactobacillus rhamnosus</i>	<i>Lacticaseibacillus rhamnosus</i>
<i>Lactobacillus plantarum</i>	<i>Lactiplantibacillus plantarum</i>
<i>Lactobacillus brevis</i>	<i>Levilactobacillus brevis</i>
<i>Lactobacillus salivarius</i>	<i>Ligilactobacillus salivarius</i>
<i>Lactobacillus fermentum</i>	<i>Limosilactobacillus fermentum</i>
<i>Lactobacillus reuteri</i>	<i>Limosilactobacillus reuteri</i>

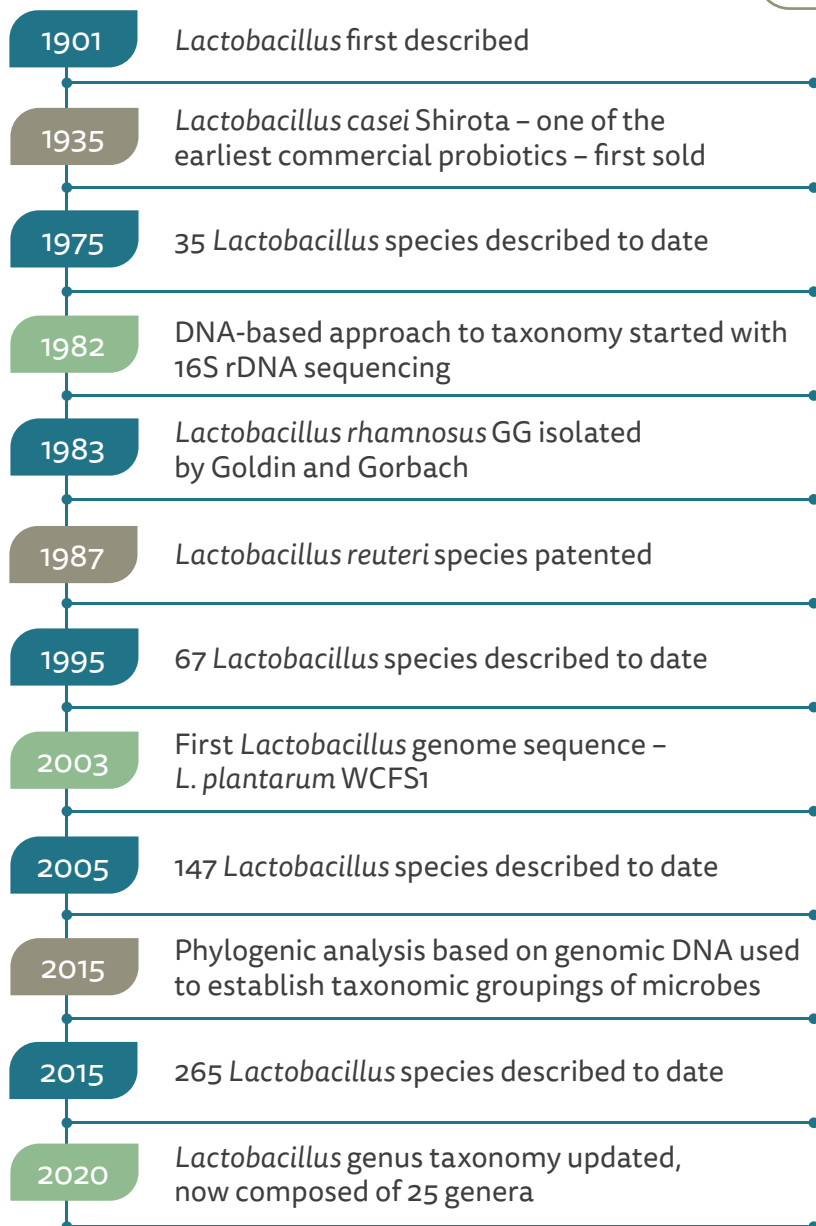
These probiotic *Lactobacillus* have not changed names:

- *Lactobacillus acidophilus*
- *Lactobacillus delbrueckii* subsp. *bulgaricus* (aka *Lactobacillus bulgaricus*)
- *Lactobacillus crispatus*
- *Lactobacillus gasseri*
- *Lactobacillus johnsonii*
- *Lactobacillus helveticus*

All new genera proposed for this group begin with the letter “L”, so the abbreviated form of genus/species – such as *L. rhamnosus* – remain unchanged. Species names and strain designations have not changed.

The new groupings may **facilitate our understanding of common mechanisms that could mediate probiotic health benefits**, because species that are more closely related (and therefore are more likely to share physiological traits) are grouped under the same genus.

Lactobacillus timeline



You can find new *Lactobacillus* names easily here: <http://lactobacillus.uantwerpen.be>

What do the changes mean for scientists?

- New publications on *Lactobacillus* strains should use the new genus names. You may need to provide a brief explanation of the changes to editors or reviewers.
- When searching the scientific literature for a specific strain, it may be necessary to search under both the old genus name and the new genus name.

These *Lactobacillus* taxonomic changes are described in the following scientific paper: Zheng et al. 2020. A taxonomic note on the genus *Lactobacillus*: Description of 23 novel genera, emended description of the genus *Lactobacillus* Beijerinck 1901, and union of *Lactobacillaceae* and *Leuconostocaceae*. IJSEM. <https://doi.org/10.1099/ijsem.0.004107>



For more information visit ISAPPscience.org or follow us on Twitter @ISAPPscience and on Instagram @isappscience