Probiotics are live microorganisms, mainly bacteria and some yeast that have been traditionally used in the production of fermented dairy products, vegetables, and soy products. Probiotics also are sold as dietary supplements or drugs.

For a product to be called probiotics, all three of the following criteria must be present. The microorganisms must be:

- Live
- Present in sufficient concentrations
- Beneficial to the person consuming it

The health of the body depends on the balance between good and bad bacteria. When foods containing probiotics are eaten, the bacteria present in these foods help increase the number of healthy bacteria found in the gut. In other words, they tip the scale in favor of healthy bacteria.

Sources of probiotics
Probiotics may be present naturally in many foods that are fermented or may be added to food, beverages, and supplements (Table 1).

Health effects
Probiotics might provide several benefits, according to the National Institute of Health. However more research is needed to confirm their effectiveness and safety. Probiotics may:

- Treat diarrhea, especially following the use of antibiotics
- Reduce symptoms of irritable bowel syndrome and inflammatory bowel syndrome such as Crohn’s disease
- Promote regularity
- Decrease lactose intolerance
改善血清胆固醇水平
降低某些癌症的风险
修改肠道免疫反应并改善其屏障功能
控制或减少某些过敏症的发展
降低或缩短某些肠道感染的风险

What amount of probiotics is needed for health effects?
没有官方剂量的益生菌用于健康益处。活微生物在益生菌中的含量以菌株形成单位 (CFUs) 计量。专家认为，每天至少需要10亿CFUs才能获得健康益处。市场上许多产品可能超过这个剂量。

Understanding names of probiotics
益生菌被以其属命名。这个属就像一个家族名称。具有相同属的益生菌属于同一家族。例如，属“Lactobacillus”或“Bifidobacterium”的益生菌与同一属的益生菌属于同一家族。您经常会看到“Lactobacillus”缩短为“L.”，而“Bifidobacterium”为“B”（表2）。

Table 2. Family of probiotics.

<table>
<thead>
<tr>
<th>Lactobacilli</th>
<th>Bifidobacteria</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Lactobacillus acidophilus</em></td>
<td><em>Bifidobacterium bifidum</em></td>
</tr>
<tr>
<td><em>L. acidophilus</em></td>
<td></td>
</tr>
<tr>
<td><em>La-1</em></td>
<td><em>B. breve</em></td>
</tr>
<tr>
<td><em>L. casei</em></td>
<td></td>
</tr>
<tr>
<td><em>L. reuteri</em></td>
<td><em>B. infantis</em></td>
</tr>
<tr>
<td><em>L. rhamnosus</em></td>
<td><em>B. longum</em></td>
</tr>
<tr>
<td><em>L. bulgaricus</em></td>
<td></td>
</tr>
<tr>
<td><em>L. plantarum</em></td>
<td></td>
</tr>
</tbody>
</table>

每种属包含多种物种（Lactobacillus acidophilus, Lactobacillus casei, etc.）和每种物种包含不同的菌株（Lactobacillus acidophilus La-1）。不同菌株的同一物种的益生菌具有不同的特性或益处。

有益效果的特定益生菌可能不适用于其他益生菌。这是非常重要的，因为消费者需要关注益生菌的菌株、物种和剂量。

The type and amount of probiotics vary among products. Many will list probiotic strains for which health benefits in humans have not been shown.

Products that contain strains from the Lactobacillus, Bifidobacterium, Streptococcus thermophilus, and Saccharomyces families have been shown to be safe for healthy individuals.
Don’t be fooled
The label of some foods, including dairy, fermented vegetables, and beer and wine, contain the term “live culture.” You may also see the term “live and active culture.” This term was developed by the National Yogurt Association and is found on many refrigerated and frozen yogurts. Products with this seal have a certain amount of bacteria when the product is manufactured. Refrigerated cultures should have at least 100 million cultures per gram; frozen yogurt should contain at least 10 million cultures per gram.
Even if a product label states it contains “live cultures” or “live and active cultures,” the product might not be probiotic — that is, contains live microorganisms in adequate amounts and provides a health benefit to the host.

Food or supplements?
Tests done by Consumer Reports magazine have found higher numbers of probiotics in most yogurt products than in supplements. In addition, when you eat foods containing probiotics you obtain the probiotic bacteria, the nutrients present in the food, and the beneficial bacterial compounds produced during fermentation. For example, when you eat probiotics in the form of a yogurt drink you get a range of probiotics (read the label) as well as nutrients present in dairy products such as calcium, vitamin D, vitamin B₁₂, potassium, and protein.

When choosing probiotics:
- Check the rating of the product. Choose products that have at least 1 billion probiotics units, the minimum amount needed to provide health benefits
- Check the bacteria. Look for products with strains that are well studied such as Lactobacillus, Bifidobacterium, Streptococcus thermophilus, and Saccharomyces
- Be wary of products that claim miraculous cures and quick weight loss.

Common red flags include:
- Promises of quick and easy remedies for complex health-related problems
- Claims that are too good to be true
- Testimonials used as evidence of effectiveness
- The use of vague terms, such as “clinically tested,” “patented,” etc.
- Recommendations based on a single study

Always talk to your doctor if you are thinking about using probiotics to treat an illness. Some probiotics may cause gas and bloating and may produce other side effects in people who have underlying health conditions. Probiotics should not be used in place of seeing a health care provider.

Even if a product label states it contains “live cultures” or “live and active cultures,” the product might not be probiotic — that is, contains live microorganisms in adequate amounts and provides a health benefit to the host.
References


