

Supplement 1. Major studies on the preventive effects of probiotics against CDI

| Year | Country/region | Strain/species | No. of event (CDI) | |
|----------------------|----------------|--|--------------------|---------|
| | | | Intervention | Placebo |
| Primary prevention | | | | |
| [77] (2008) | US | <i>Lactobacillus acidophilus</i> <i>Bifidobacterium longum</i> <i>B. lactis</i> <i>L. rhamnosus</i> | 4/23 | 6/16 |
| [78] (2020) | UK | <i>L. casei</i> DN114001 | 106/549 | 103/577 |
| [79] (2013) | UK | <i>L. acidophilus</i> CUL60 and CUL21 <i>B. bifidum</i> CUL20 <i>B. lactis</i> CUL34 | 12/1470 | 17/1471 |
| [80] (2017) | China | <i>Saccharomyces boulardii</i> | 12/81 | 23/82 |
| [81] (2012) | Italy | <i>S. boulardii</i> | 3/106 | 2/98 |
| [82] (2006) | Turkey | <i>S. boulardii</i> | 1/73 | 2/78 |
| [83] (2007) | UK | <i>L. casei</i> <i>L. bulgaricus</i> <i>Streptococcus thermophilus</i> | 0/57 | 9/56 |
| Secondary prevention | | | | |
| [84] (2023) | US, Canada | <i>Enterocloster boltae</i> <i>Anaerotruncus colibominis</i> <i>Sellimonas intestinalis</i> <i>Clostridium_Q symbiosum</i> <i>Blautia</i> sp001304935 <i>Dorea_A longicatena</i> <i>Clostridium_AQ innocuum</i> <i>Flavonifractor plautii</i> | 14/57 | 10/22 |
| [85] (2025) | Thailand | <i>S. boulardii</i> | 1/59 | 8/61 |
| [86] (2017) | US | <i>L. acidophilus</i> NCFM <i>L. paracasei</i> Lpc-37 <i>B. lactis</i> Bi-07 <i>B. lactis</i> Bl-04 | 1/15 | 1/16 |
| [87] (2004) | UK | <i>Lactobacillus</i> <i>Bifidobacterium</i> | 2/69 | 5/69 |
| [88] (1994) | US | <i>S. boulardii</i> | 9/26 | 22/34 |
| [89] (2003) | Sweden | <i>L. plantarum</i> 299v | 4/11 | 6/9 |
| [90] (2025) | US, Canada | “CP101” Full-spectrum, investigational, oral, lyophilized microbiome therapeutic | 26/102 | 37/96 |

CDI, *Clostridioides difficile* infection.