

**TABLE 2**

## Some Health Benefits With Evidence Linked to Consumption of Probiotics and Prebiotics

This table provides examples from the literature. Due to expansive literature, it is likely that a few high-quality studies were missed. See Merenstein et al. 2020<sup>13</sup> or **Clinical Guide for Probiotics** for specific probiotic product recommendations and doses for indicated benefits, although be attentive to quality of evidence for indicated endpoints. Strains listed below are available as dietary supplements unless indicated parenthetically. Dark shaded boxes represent usages more strongly recommended. What about fermented foods? Most traditional fermented foods have not been studied for health benefits. Exceptions are indicated. However, for generally healthy clients with digestive complaints or an interest in supporting immune function, fermented foods that align with dietary needs or preferences and that contain live microorganisms likely will not hurt and might help.

Health Benefit	Recommendation
<b>GUT HEALTH</b>	
Reducing the incidence and duration of antibiotic-associated diarrhea	Probiotic for pediatric <sup>16,97</sup> and adult - <i>Saccharomyces cerevisiae</i> var. <i>boulardii</i> (AKA: <i>S. boulardii</i> ) <sup>98</sup> - <i>L. rhamnosus</i> GG <sup>99</sup> - <i>L. paracasei</i> subsp. <i>paracasei</i> DN-114 001, <i>S. thermophilus</i> , + <i>L. bulgaricus</i> (fermented milk) <sup>100</sup> - <i>L. acidophilus</i> CL1285, <i>L. casei</i> LBC80R, + <i>L. rhamnosus</i> CLR2e (fermented milk or capsule) <sup>101</sup>
	Prebiotic - Inulin and FOS <sup>102</sup>
Prevention of <i>C. difficile</i> disease for patients taking antibiotics	Probiotic for pediatric and adult <sup>103,104</sup> - <i>Saccharomyces cerevisiae</i> var. <i>boulardii</i> (AKA: <i>S. boulardii</i> ) <sup>12</sup> - <i>L. paracasei</i> subsp. <i>paracasei</i> DN-114 001, <i>S. thermophilus</i> , + <i>L. bulgaricus</i> (fermented milk) <sup>100</sup> - <i>L. acidophilus</i> CL1285, <i>L. casei</i> LBC80R, + <i>L. rhamnosus</i> CLR2e (fermented milk or capsule) <sup>105</sup>
Managing digestive discomfort (including in irritable bowel syndrome)	Probiotic for pediatric and adult - <i>B. animalis</i> subsp. <i>lactis</i> DN-173-010 (AKA: CNCM I-2494), <i>L. bulgaricus</i> , <i>S. thermophilus</i> + <i>Lactococcus lactis</i> (yogurt) <sup>106</sup> - <i>B. longum</i> subsp. <i>longum</i> 35624 <sup>107</sup> - <i>L. plantarum</i> 299V <sup>108</sup> - <i>B. lactis</i> HN019 <sup>109</sup> - <i>L. acidophilus</i> CUL60 (NCIMB 30157) + <i>L. acidophilus</i> CUL21 (NCIMB 30156) + <i>B. animalis</i> subsp. <i>lactis</i> CUL34 (NCIMB 30172) + <i>B. bifidum</i> CUL20 (NCIMB 30153) <sup>110</sup> - <i>B. animalis</i> subsp. <i>lactis</i> BB-12 <sup>111</sup> (Note that this strain is also published as Bb-12)
	Prebiotic - Trans-GOS <sup>112</sup> - Inulin <sup>113,114</sup>
Maintenance of normal defecation by increasing stool frequency	Prebiotic - Inulin <sup>113,114</sup>
Gut barrier function	Prebiotic - GOS <sup>115</sup>
Ulcerative colitis in combination with standard therapy, extending remission	Probiotic for pediatric <sup>116</sup> and adults <sup>117</sup> - <i>L. acidophilus</i> DSM24735 + <i>L. paracasei</i> DSM24733 + <i>L. delbrueckii</i> subsp. <i>bulgaricus</i> DSM24734 + <i>L. plantarum</i> DSM24730 + <i>B. longum</i> DSM24736 + <i>B. infantis</i> DSM24737 + <i>B. breve</i> DSM24732 + <i>S. thermophilus</i> DSM24731
<i>H. pylori</i> eradication rates, in conjunction with standard antibiotic therapy	Probiotic - Multiple probiotics, children <sup>118</sup> - <i>Saccharomyces cerevisiae</i> var. <i>boulardii</i> (AKA: <i>S. boulardii</i> ) lyo CNCM I-745 <sup>119</sup>
Reducing symptoms of colic in breastfed babies	Probiotic - <i>L. reuteri</i> DSM 17938 <sup>120</sup>
Improve tolerance of lactose for lactose maldigesters	Probiotic - Any strains of <i>Streptococcus thermophilus</i> and <i>L. bulgaricus</i> <sup>20</sup> These bacteria are used to create yogurt from milk and will be present at sufficient numbers in most yogurts—as long as yogurt is not heat treated after fermentation
Treating acute pediatric infectious diarrhea	Probiotic - <i>L. rhamnosus</i> GG <sup>17</sup> - <i>L. reuteri</i> DSM 17938 <sup>17</sup> - <i>Saccharomyces cerevisiae</i> var. <i>boulardii</i> (AKA: <i>S. boulardii</i> ) <sup>17</sup> Use mainly based on the studies in populations with low rotavirus vaccination rate. <sup>17</sup> AGA recommends against use of probiotics in the US for this condition. <sup>12</sup>
Reducing morbidity, mortality, or sepsis in preterm infants, including prevention of necrotizing enterocolitis	Probiotic <sup>2</sup> - <i>L. rhamnosus</i> GG (ATCC53103)* - <i>B. infantis</i> Bb-02, <i>B. lactis</i> BB-12 + <i>S. thermophilus</i> TH-4* - <i>B. longum</i> ATCC BAA-999 - <i>L. reuteri</i> DSM 17938 or ATCC 55730 - <i>L. rhamnosus</i> ATC A07FA - <i>L. rhamnosus</i> LCR 35 - <i>B. animalis</i> subsp. <i>lactis</i> DSM 15954 * ESPGHAN guidelines. <sup>18</sup>
<b>IMMUNE</b>	
Prevention of allergy	Probiotic - Only use that is supported by studies is for reducing risk of atopic dermatitis in infants at high risk of allergy; administration to both pregnant women and infants <sup>121,122</sup> but evidence is equivocal <sup>123</sup>
Treatment of allergy	Probiotic - <i>B. animalis</i> subsp. <i>lactis</i> CECT 8145 + <i>B. longum</i> CECT 7347 + <i>L. casei</i> CECT 9104 (treatment of pediatric eczema) <sup>124</sup> - Insufficient evidence that probiotics can treat food allergy or eczema in general. <sup>125,126</sup>
Decreasing risk or duration of common infections (respiratory or GI)	Probiotic - Different <i>Lactobacillus</i> and <i>Bifidobacterium</i> included in meta-analyses <sup>19</sup> - <i>L. paracasei</i> subsp. <i>paracasei</i> Shirota <sup>127,128</sup> - <i>L. paracasei</i> subsp. <i>paracasei</i> DN-114 001 (AKA: CNCM I-1518) <sup>25,129,130</sup> - <i>L. plantarum</i> HEAL9 + <i>L. paracasei</i> 8700:2 <sup>131</sup> - <i>L. acidophilus</i> NCFM in + <i>B. animalis</i> subsp. <i>lactis</i> Bi-07 <sup>132</sup> - <i>L. rhamnosus</i> GG <sup>133</sup>
	Prebiotic GOS and polydextrose mixture, 1:1 <sup>134</sup>
<b>METABOLIC HEALTH</b>	
Weight management	Probiotic - <i>L. acidophilus</i> CUL60 (NCIMB 30157) + <i>L. acidophilus</i> CUL21 (NCIMB 30156) + <i>L. plantarum</i> CUL66 (NCIMB 30280) + <i>B. bifidum</i> CUL20 (NCIMB 30153) + <i>B. animalis</i> subsp. <i>lactis</i> CUL34 (NCIMB 30172) <sup>135</sup> - <i>B. animalis</i> subsp. <i>lactis</i> 42069
	Prebiotic - Inulin-type fructans <sup>55</sup> - Oligofructose <sup>56</sup>
Manage high blood cholesterol levels	Probiotic - <i>L. reuteri</i> NCIMB 30242 <sup>136</sup>
	Prebiotic - Trans-GOS <sup>137</sup>
<b>WOMEN'S HEALTH</b>	
Reduce recurrent vaginal infections	Probiotic - <i>L. reuteri</i> RC-14 + <i>L. rhamnosus</i> GR-1 <sup>138</sup>
Improved calcium/magnesium absorption	Prebiotic - Mixture of chicory oligofructose and long-chain inulin <sup>139</sup>

AGA, American Gastroenterological Association; ESPGHAN, European Society for Paediatric Gastroenterology Hepatology and Nutrition; FOS, fructooligosaccharides; GOS, galactooligosaccharides; GI, gastrointestinal ; AKA, also known as.