Supplementary Material

Evaluation of the effect of food products containing prebiotics and *Bacillus subtilis* HU58™ on the gut microbial community activity and community composition using an in vitro M-SHIME® model

Marzorati M et al.

Text S1. Test product ingredients.

GoodBiome™ Foods Lemon Chia Muffin [1]

Inulin powder, white sorghum flour, pea protein concentrate, flaxseed, soluble tapioca fiber, almond protein concentrated, black chia seeds, cane sugar, almond meal, sacha inchi protein concentrate; Contains 2% or less of each of the following: leavening (monocalcium phosphate, sodium bicarbonate), xylooligosaccharides, lemon, tapioca starch, sea salt, orange powder, banana powder, papaya powder, shiitake mushroom powder, monk fruit extract, *Bacillus subtilis* HU58™, natural flavor.

GoodBiome™ Foods Berry Blast Muffin [1]

Inulin powder, white sorghum flour, pea protein concentrate, flaxseed meal, erythritol, almond protein concentrate, almond meal, quinoa flour, coconut sugar, sacha inchi protein concentrate; Contains 2% or less of each of the following: date powder, blueberry powder, strawberry powder, soluble tapioca fiber, cranberry powder, beet powder, leavening (monocalcium phosphate, sodium bicarbonate), xylooligosaccharides, monk fruit extract, orange powder, banana powder, papaya powder, shiitake mushroom powder, sea salt, tapioca starch, natural flavor, *Bacillus subtilis* HU58™.

GoodBiome™ Foods Oat Spice Mookie [1]

Oats, almond meal, inulin powder, pea protein concentrate, flaxseed, soluble tapioca fiber, chocolate chips (cane sugar, cocoa liquor, cocoa butter), cane sugar; contains 2% or less of the following: leavening (monocalcium phosphate, sodium bicarbonate), xylooligosaccharides, fenugreek seed, anise, molasses, sea salt, orange powder, banana powder, papaya powder, shiitake mushroom powder, monk fruit extract, *Bacillus subtilis* HU58™.

Kodiak Cake Chocolate Chip Muffin Cup [2]

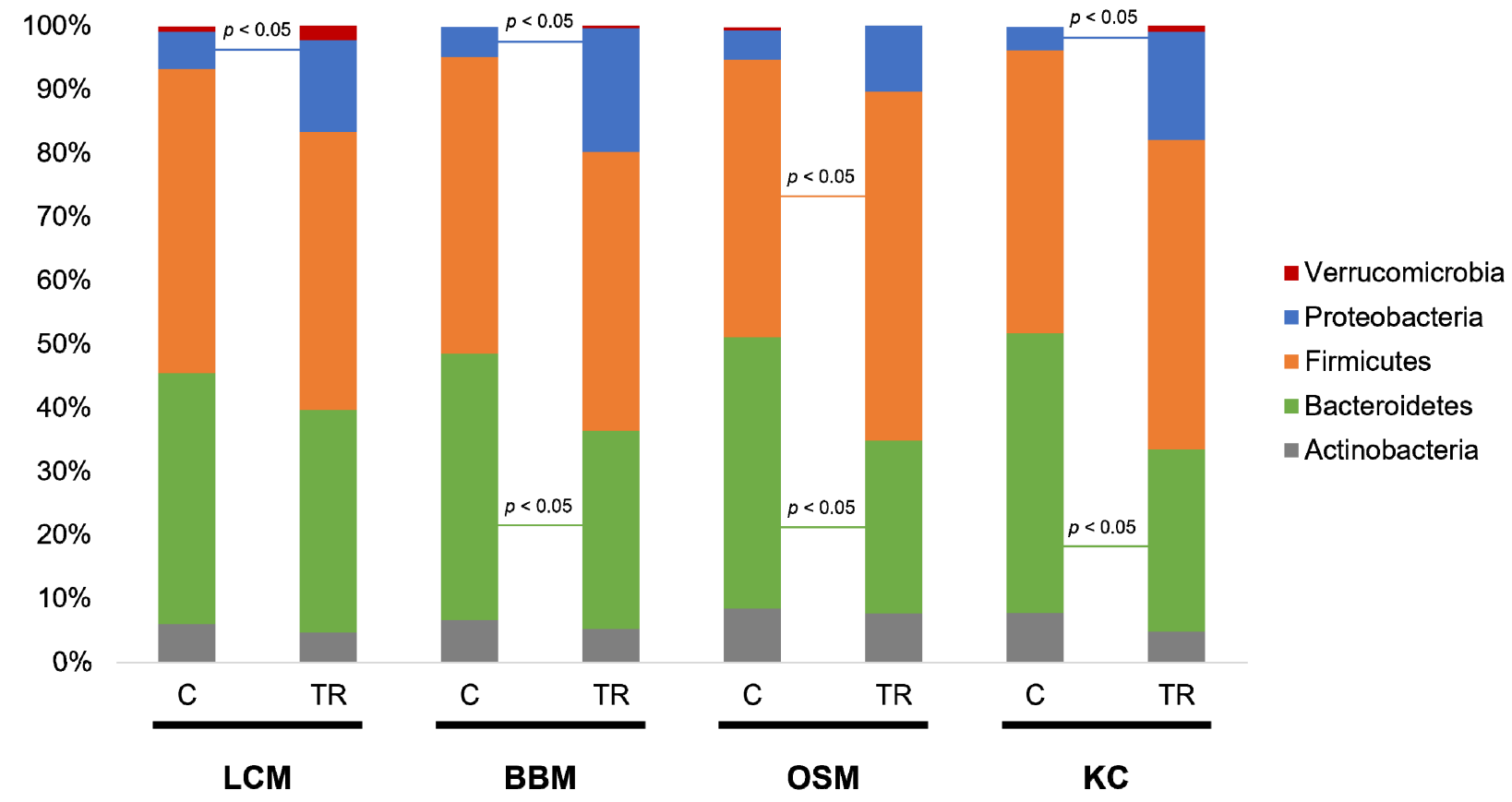
100% whole grain wheat flour, 100% whole grain oat flour, cane sugar, semisweet chocolate (sugar, unsweetened chocolate, cocoa butter, dextrose, sunflower lecithin), wheat protein isolate, palm oil, light molasses (refinery syrup, cane molasses), whey protein concentrate, leavening (monocalcium phosphate, baking soda), milk protein concentrate, natural flavor, sea salt.

Supplementary Figures

Figure S1. Changes in microbial community composition at the phylum level in the mucosal PC and DC for (a) Donor A, mucosal PC; (b) Donor B, mucosal PC; (c) Donor A, mucosal DC; (d) Donor B, mucosal DC

BBM = berry blast muffin; bSCFA = branched short-chain fatty acid; C = control period; DC = distal colon; KC = Kodiak cake; LCM = lemon chia muffin; OSM = oat spice mookie; PC = proximal colon; TR = treatment period.

A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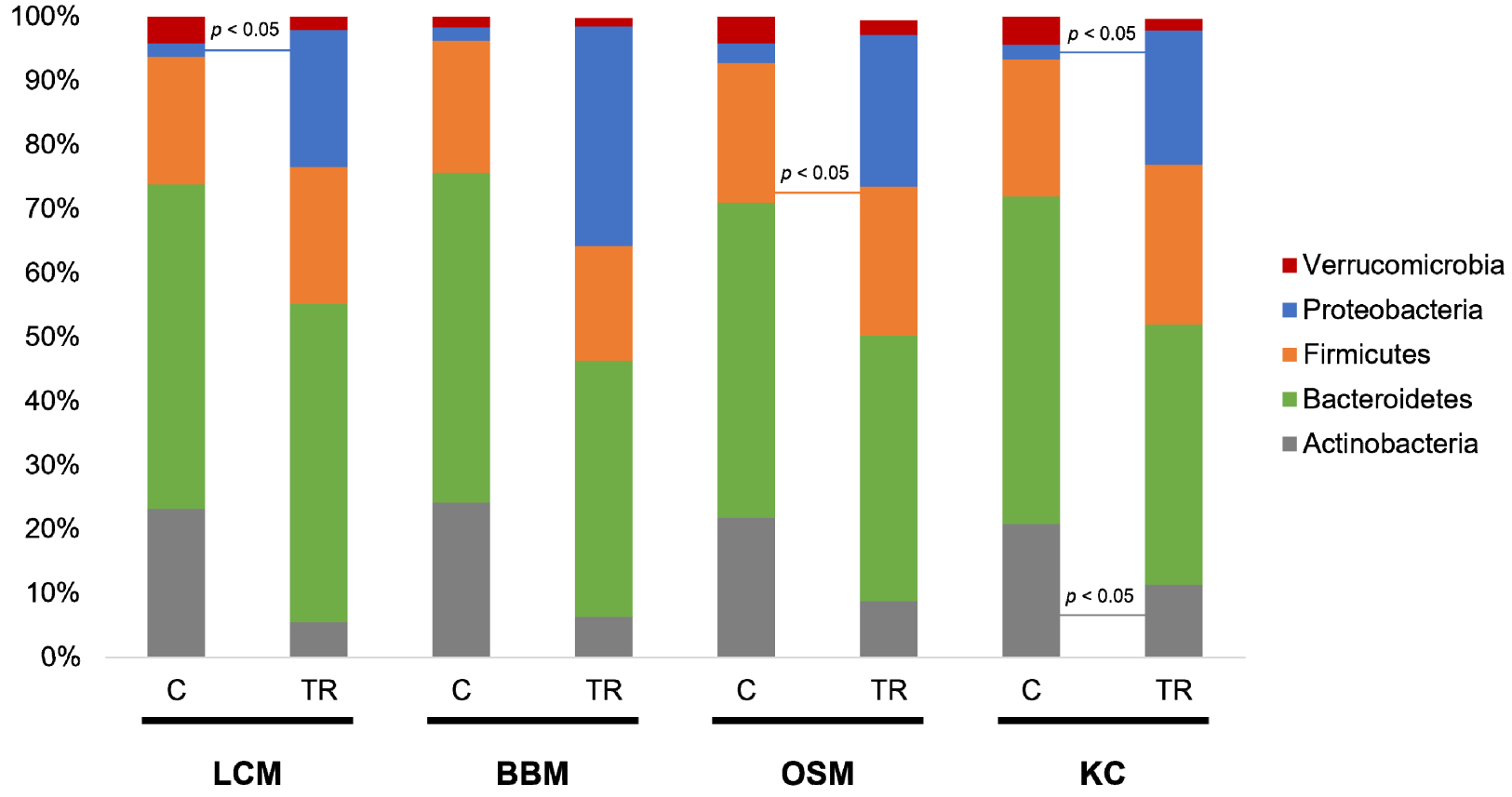
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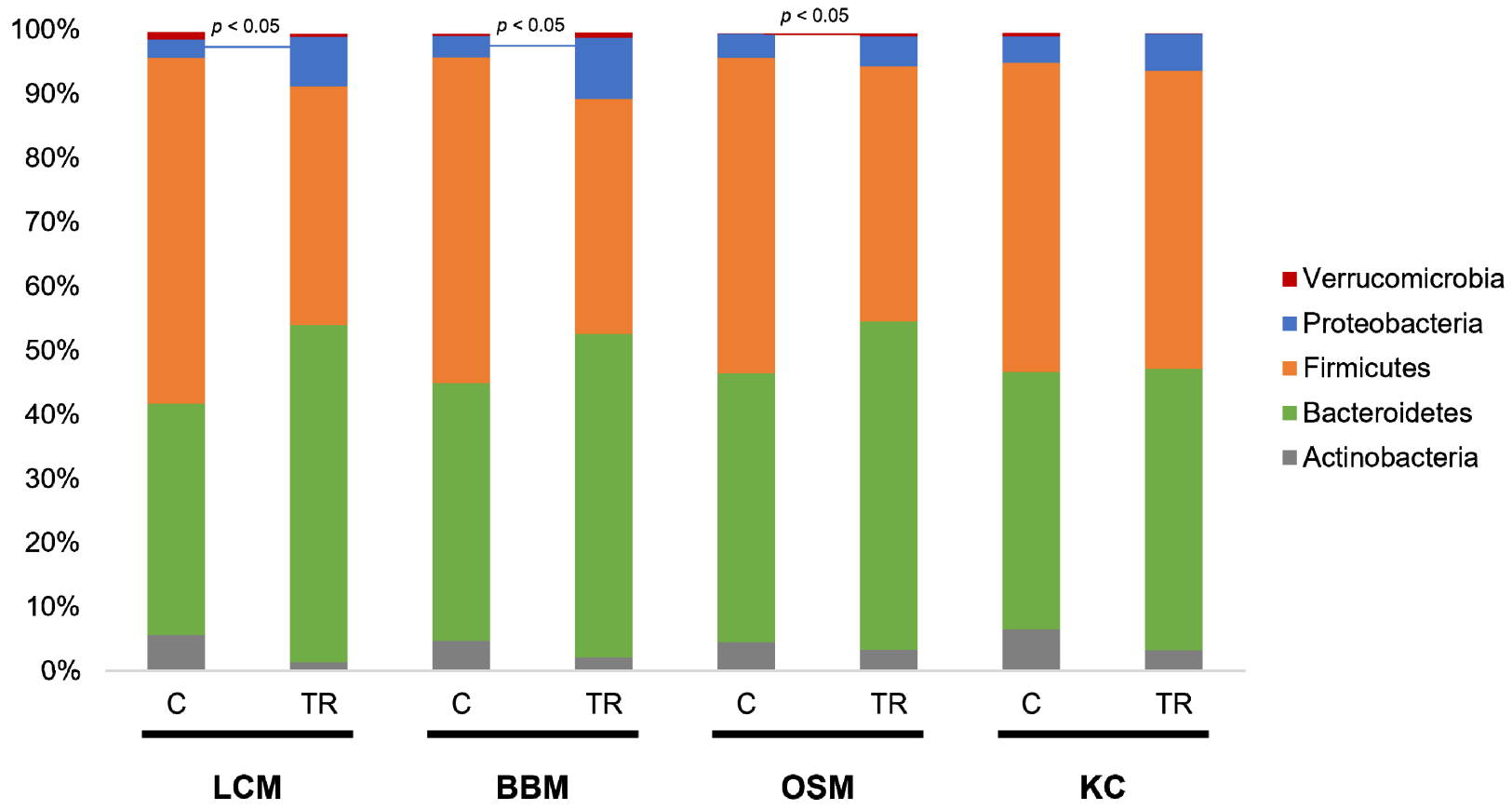
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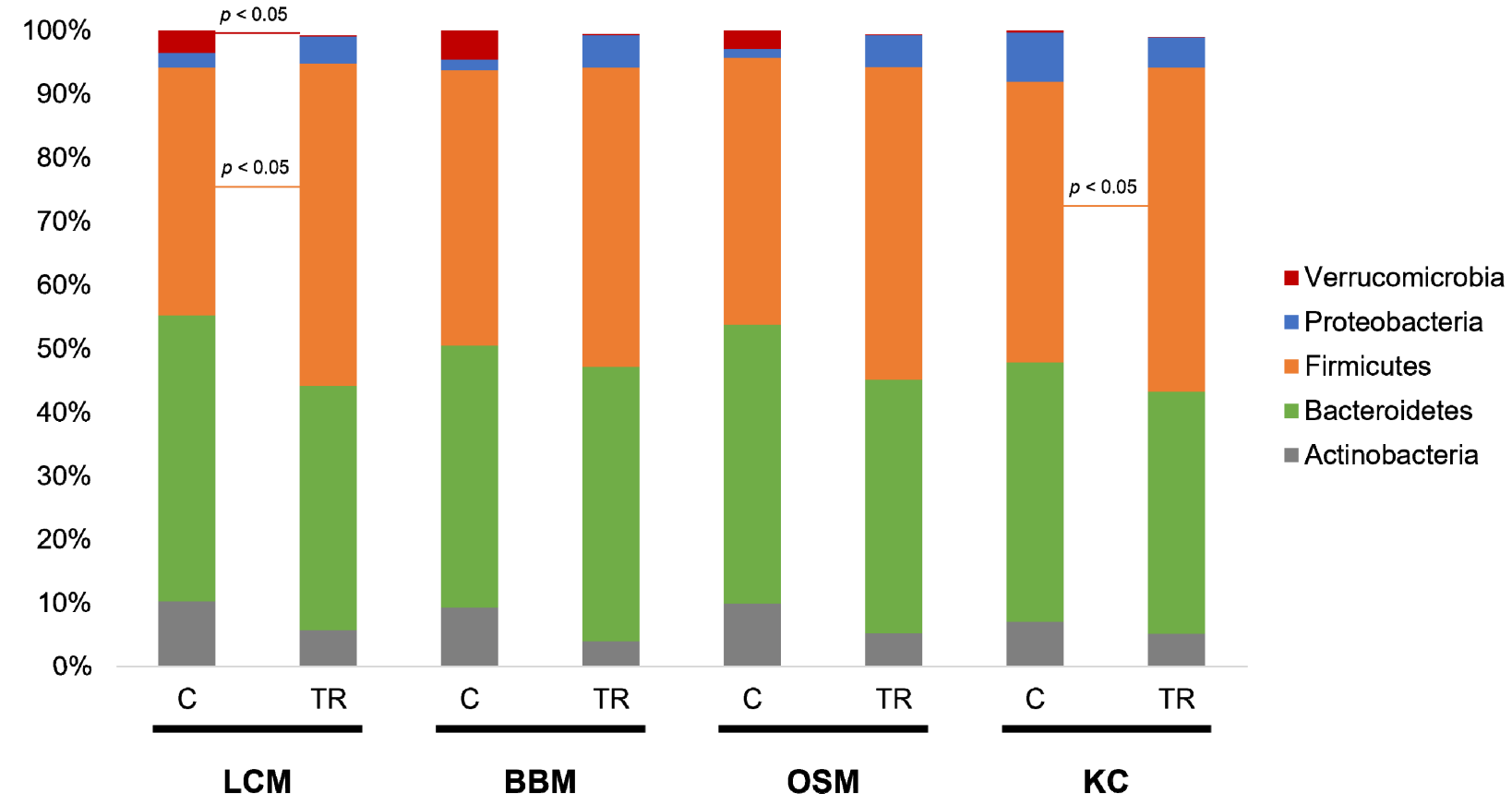
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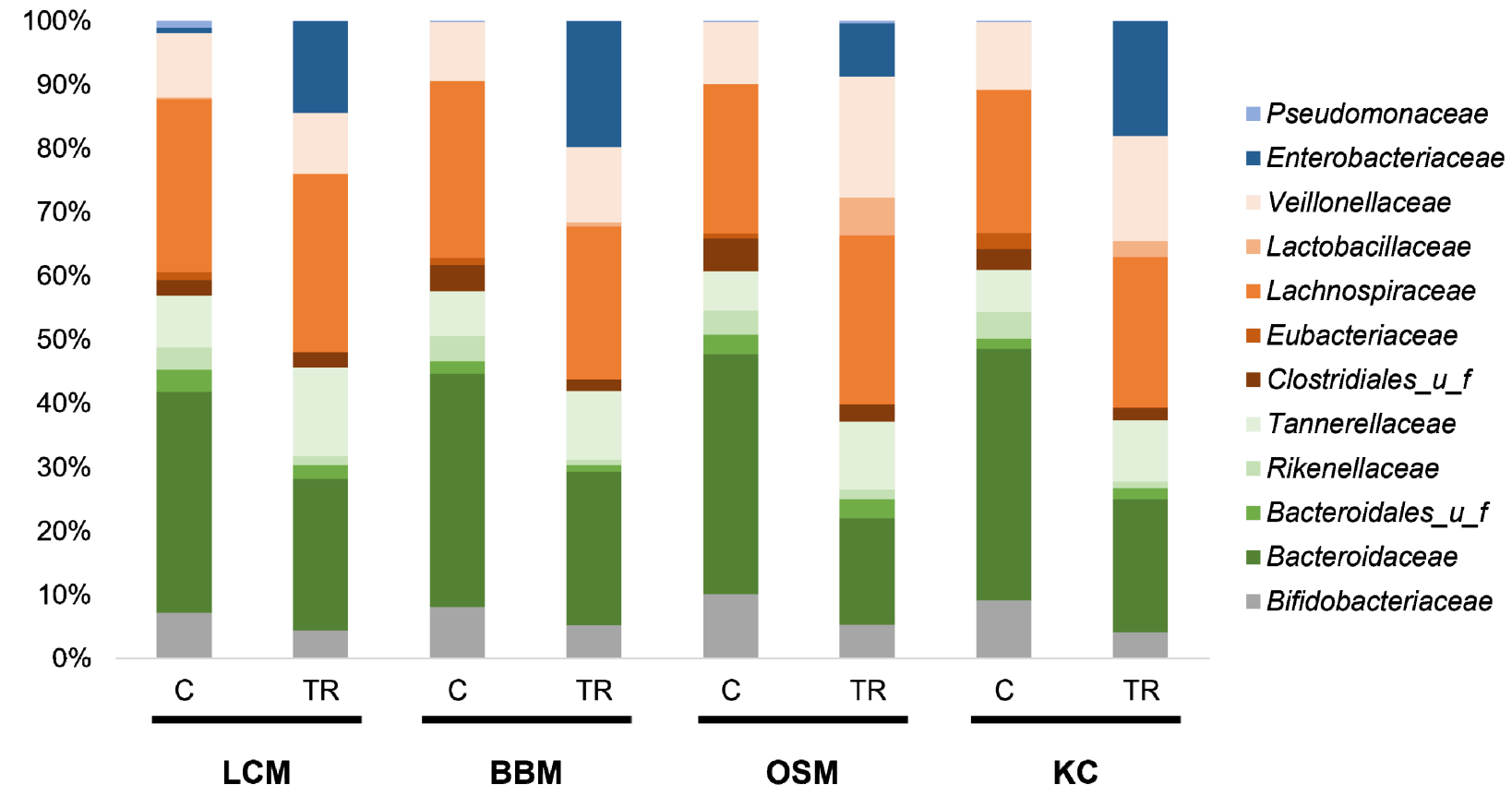
Proteobacteria
Firmicutes
Bacteroidetes
Actinobacteria

Figure S2. Changes in microbial community composition at the family level in the mucosal PC and DC for (a) Donor A, mucosal PC; (b) Donor B, mucosal PC; (c) Donor A, mucosal DC; (d) Donor B, mucosal DC

BBM = berry blast muffin; bSCFA = branched short-chain fatty acid; C = control period; DC = distal colon; KC = Kodiak cake; LCM = lemon chia muffin; OSM = oat spice mookie; PC = proximal colon; TR = treatment period.

A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Lachnospiraceae
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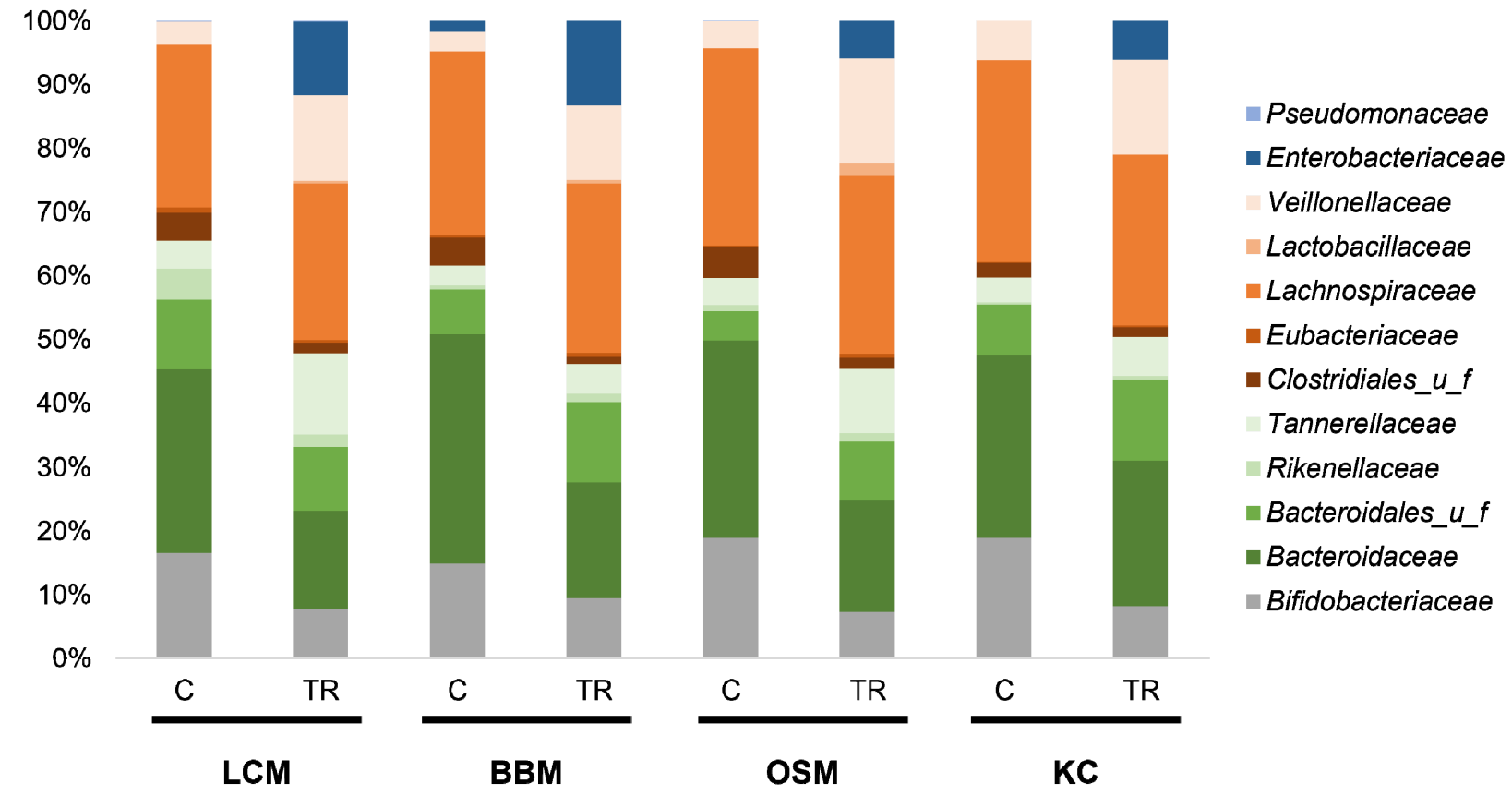
B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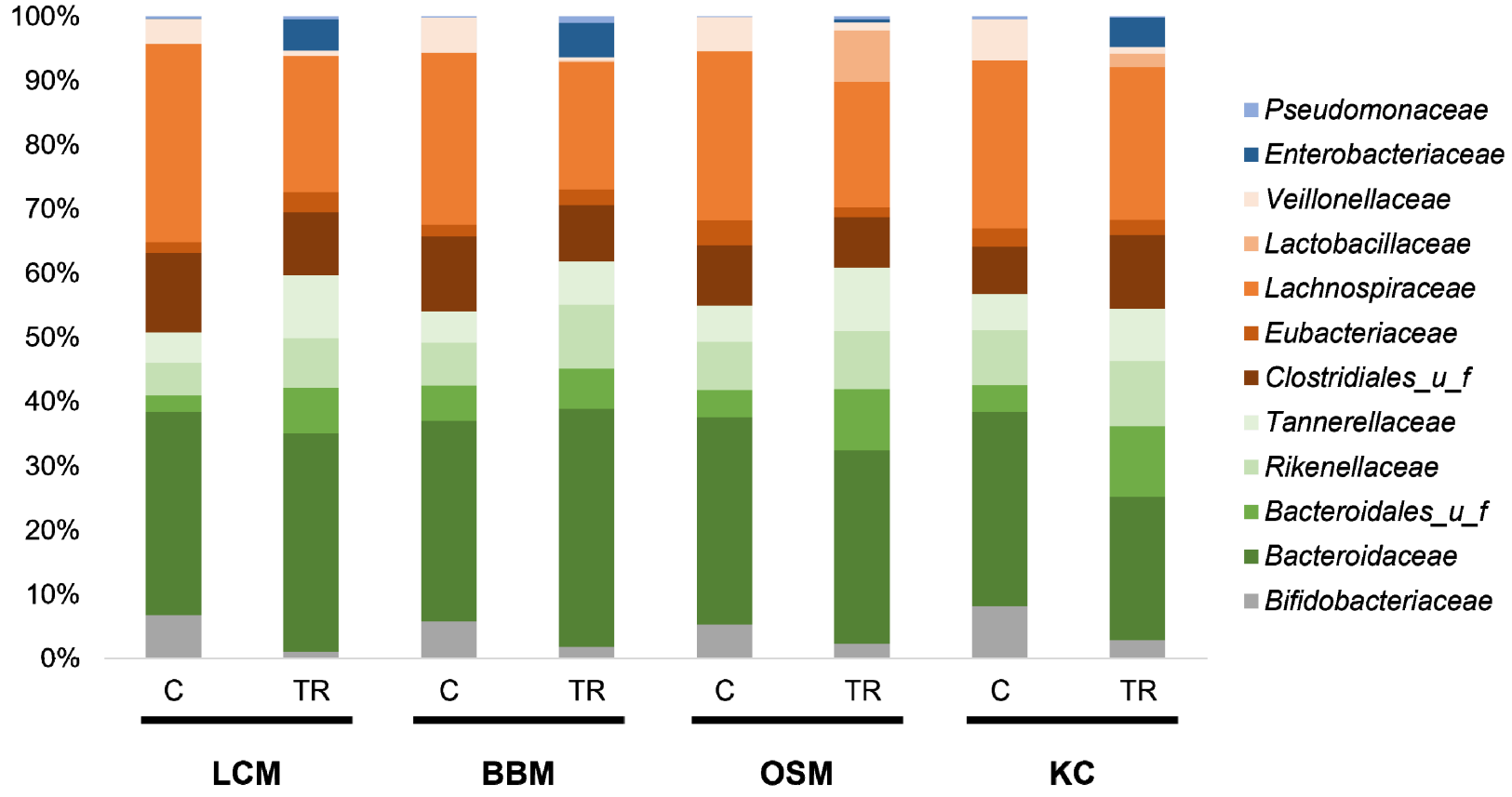
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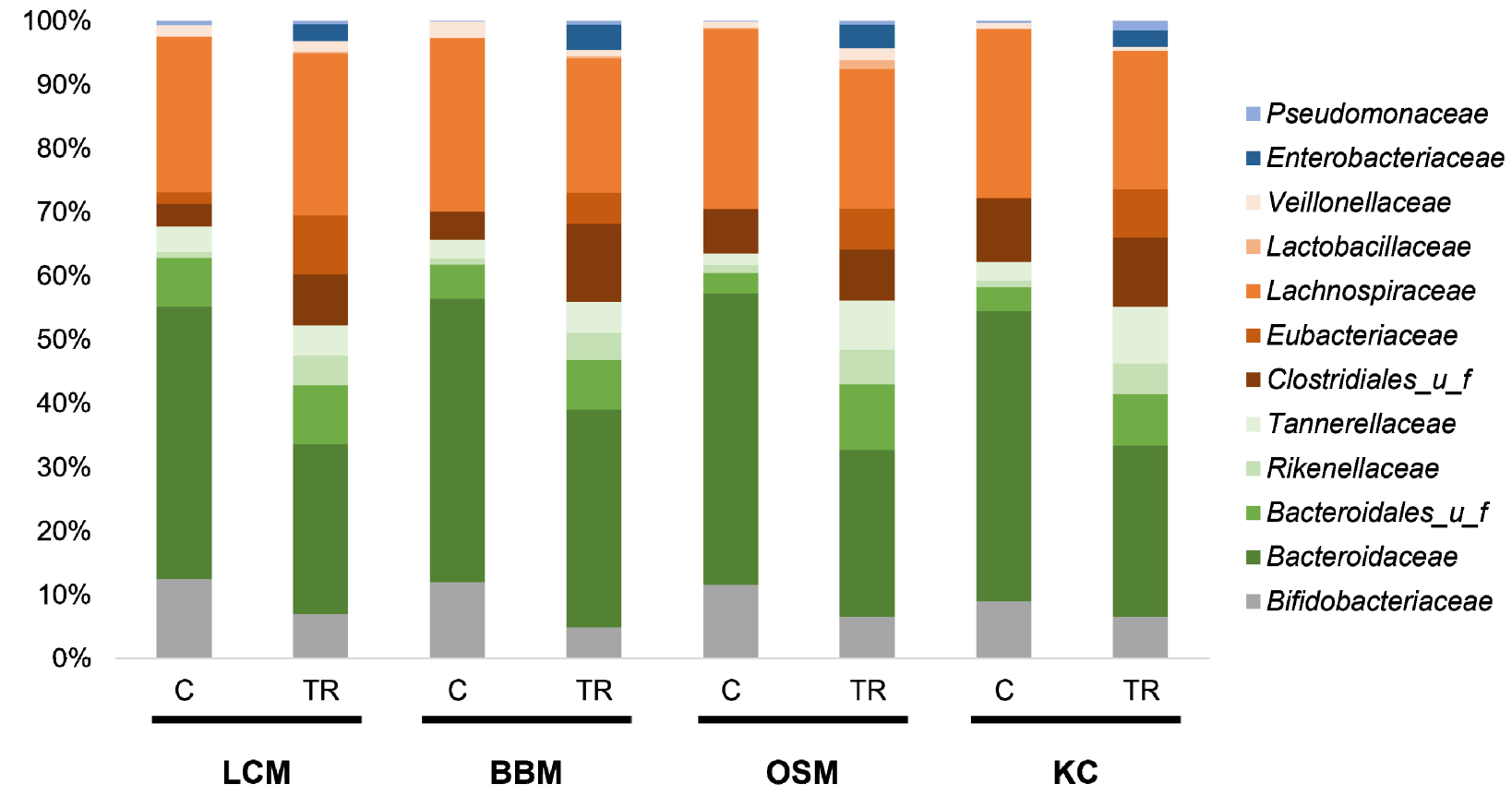
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Bifidobacteriaceae

References

1. Microbiome Labs. GoodBiome™ Foods. Available online: https://microbiomelabs.com/home/products/good-biome-foods/ (accessed on 27 July 2021).
2. Kodiak Cakes Available online: https://kodiakcakes.com/products/chocolate-chip-minute-muffin (accessed on 27 July 2021).