



# IS ICECREAM A SUITABLE CARRIER FOR PROBIOTICS?



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## BACKGROUND

- According to definition probiotics should be alive
- Probiotics have so far not been used in ice cream

## OBJECTIVE

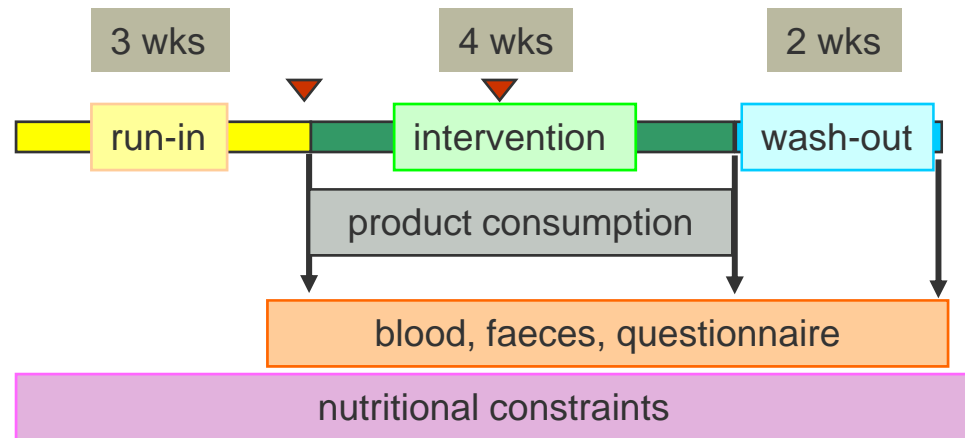
Investigate the suitability of light ice cream (IC) as a carrier for probiotics

## APPROACH

A DBRPC parallel study with 90 healthy volunteers (25-55 yrs) for 4 weeks. Two concepts were tested: low dose every day or higher dose alternating days.

## TREATMENTS

- 1) **Control:**  
light IC every day (n=30)
- 2) **Low dose HN019 every day:**  
IC with  $1 \times 10^9$  CFU  
*Bifidobacterium lactis* HN019 (n=30)
- 3) **High dose Bb-12 alternating every other day with control:**  
IC with  $5 \times 10^9$  CFU  
*Bifidobacterium lactis* Bb-12 (n=30)



▼ Distribution of test product



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Unilever

## RESULTS

### Survival of probiotic strains in IC matrix:

- Both probiotics survived and remained stable in product.

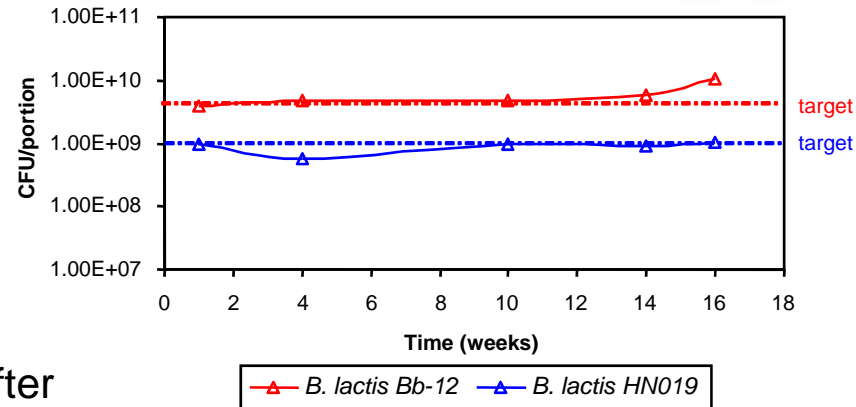
### Health benefits:

- Significant increase in # of *B. lactis* in faeces after every-other-day consumption of IC with Bb-12
- No increase in faecal *B. lactis* after daily consumption of IC with HN019.
- No effect on measured immune parameters (phagocytosis, NK) in this healthy population after consumption of IC with probiotics.

## CONCLUSIONS

- Bb-12 and HN019 both remain alive in IC till end of shelf-life.
- Bb-12, but not HN019, stays alive during GI transit.

**Light IC is a suitable carrier for *B. lactis* Bb-12, but not *B. lactis* HN019.**



Viable counts of Bifidobacteria in light IC when stored at -20°C.

