



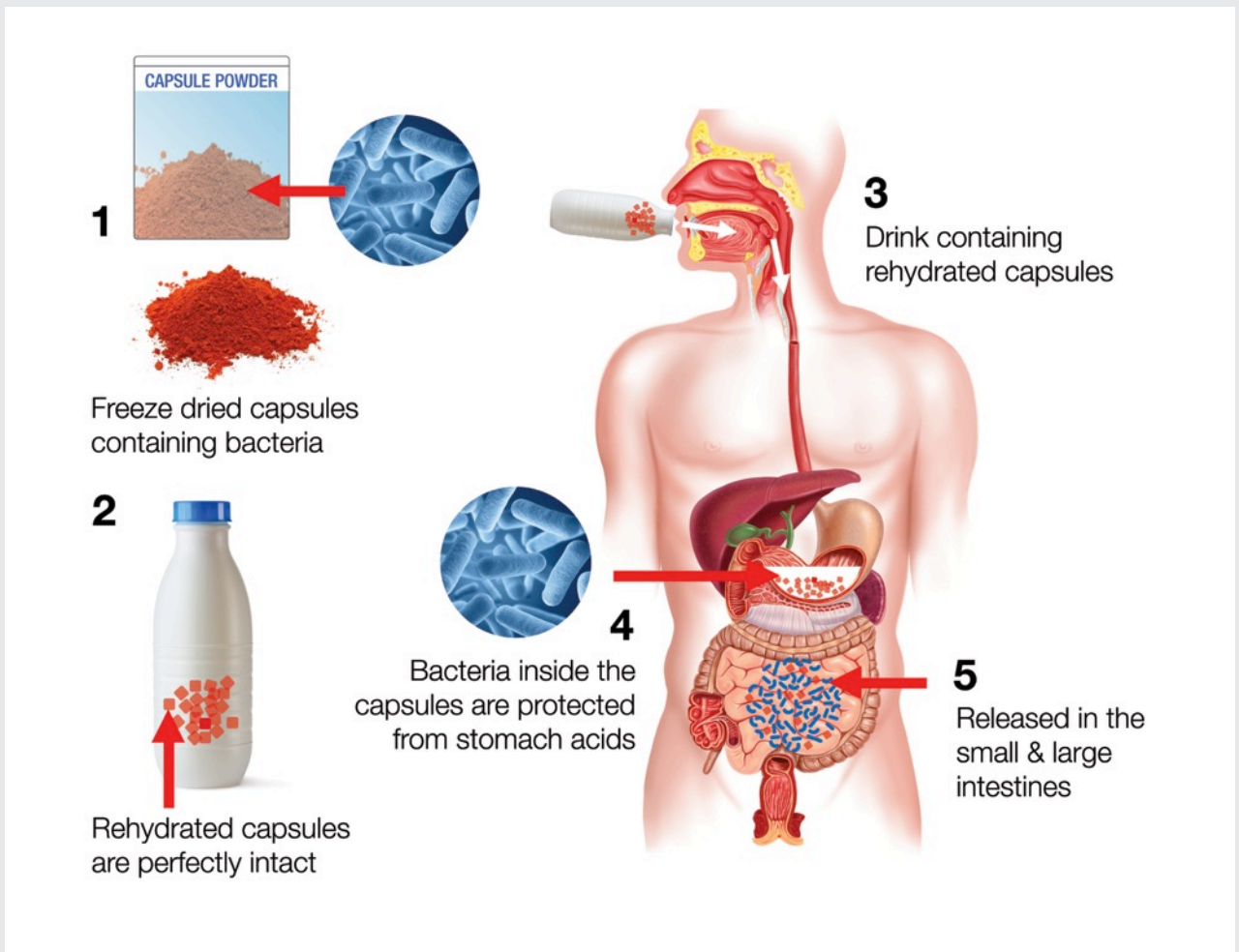
## Bac-in-a-Box® technology:

- Live probiotic bacteria can be encapsulated in small capsules made of natural materials
- Bacteria survive and grow inside the capsules
- Encapsulated bacteria can be freeze dried
- Freeze dried encapsulated bacteria can be stored and transported at room temperature
- (Uncapsulated probiotic bacteria spoil easily and quickly without refrigeration)

➡ Effectively making it easy to store and ship probiotic bacteria without loss (and without refrigeration)

- Freeze dried encapsulated probiotic bacteria can be revived by placing capsules in liquid
- Encapsulated bacteria are protected from acid conditions in the stomach
- (Normally 99.9% of uncapsulated probiotic bacteria are killed in the stomach)

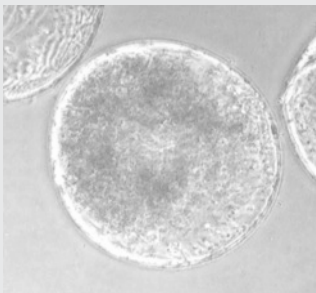
➡ Preventing the encapsulated live probiotic bacteria from being destroyed in the stomach



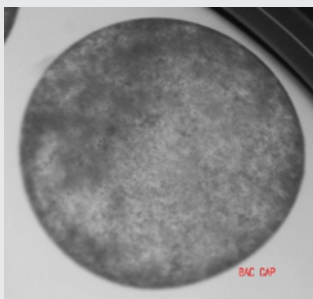


## Bac-in-a-Box® technology allows:

- living bacteria such as probiotics to be encapsulated in inert biocompatible polymers made of cellulose sulphate
- up to 10 million probiotic cells to be encapsulated per standard sized capsule (0.7mm)
- probiotics to be protected through stomach acid and gastric juices to deliver 99%+ live into the gut
- capsules with bacteria to be freeze-dried for increased shelf-life of bacteria, easy storage and shipment
- cells in freeze-dried capsules to remain viable over longer storage periods than non-encapsulated bacteria



bacteria growth after 24 hours



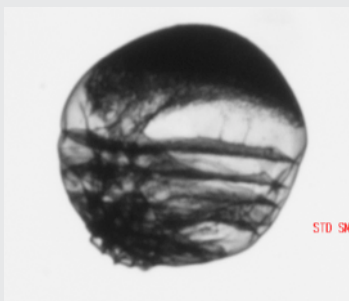
bacteria growth after 48 hours (5-10 million bacteria)



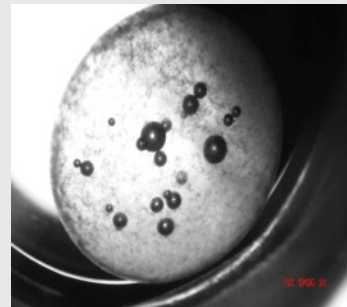
food grade coloured freeze-dried capsules with probiotics (residue is from cyroprotectant)



freeze-dried Bac-in-a-Box® can be vacuum bagged for long-term storage and easy shipment



close-up image of freeze-dried capsule which has approx. 1% of original weight of wet capsule



freeze-dried capsules are completely uncompromised after rehydration in any aqueous solution

## Bac-in-a-Box® capsules:

- can be developed into unique and highly marketable new food, nutraceutical, cosmetic and agricultural products
- are manufactured at laboratory grade for proof-of-concept testing and product development
- please see our website for details contracting Bac-in-a-Box® services or production [www.austrianova.com](http://www.austrianova.com)

