

Prebiotics, Synbiotics, Types & Their Mechanism of Action

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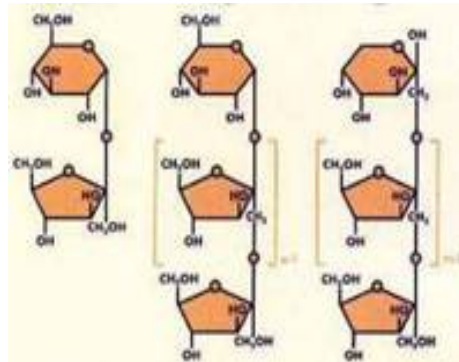
Prebiotics

The term prebiotic was introduced by Gibson and Roberfroid who exchanged “pro” for “pre,” which means “before” or “for.”

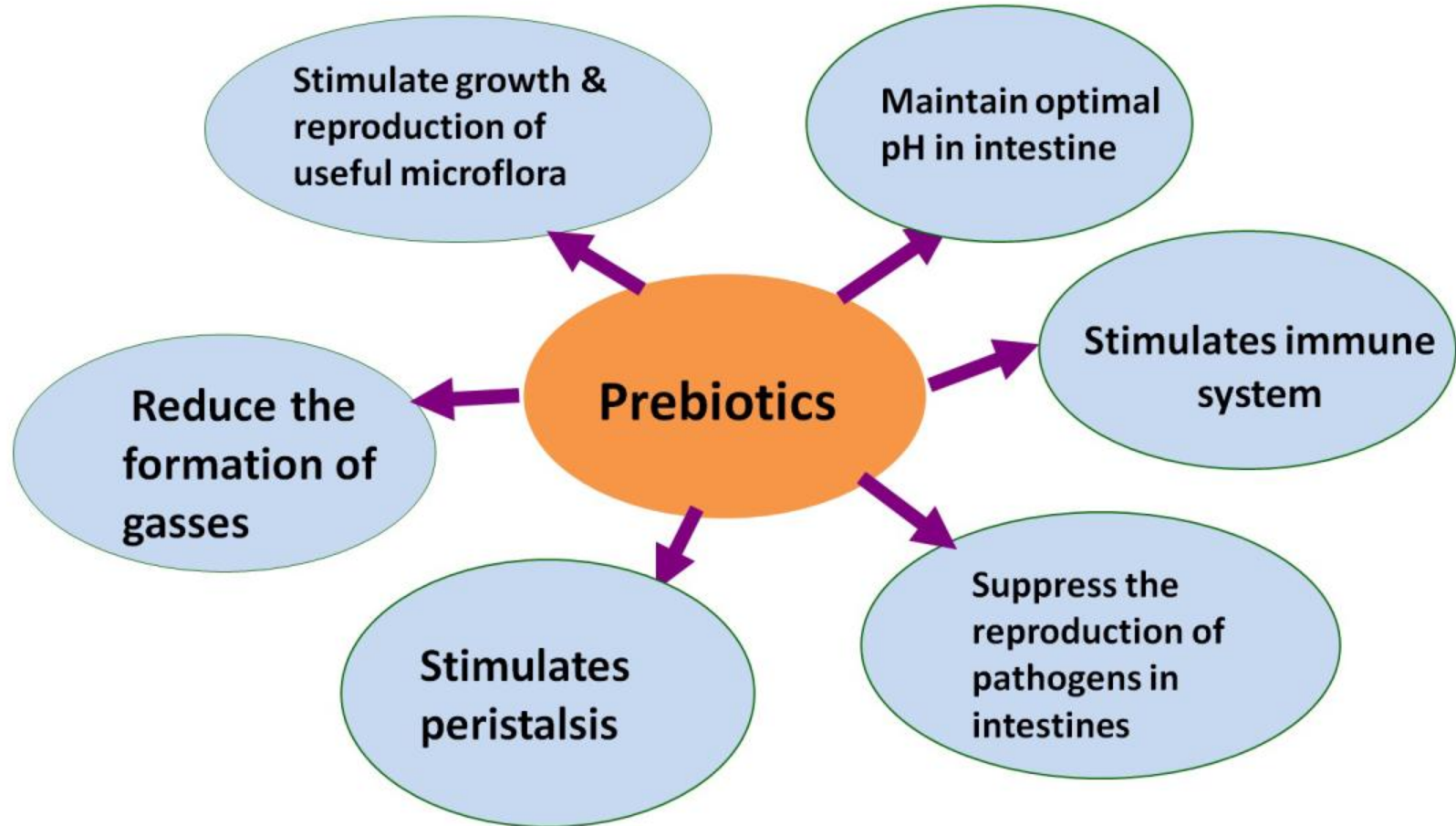
- A non-digestible food ingredient
- Beneficial effects
 - Selective stimulation
 - Improved host health

Prebiotics

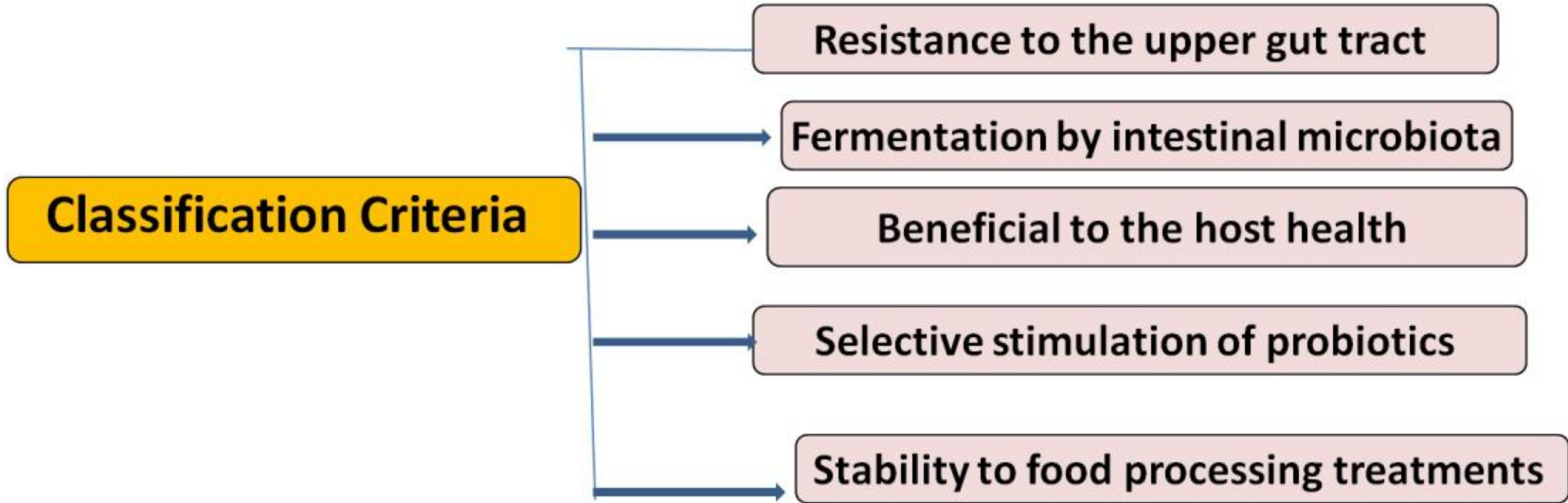
“Prebiotics are non-digestible but fermentable oligosaccharides that are specifically designed to change the composition and activity of the intestinal microbiota with prospect to promote the health of the host.”



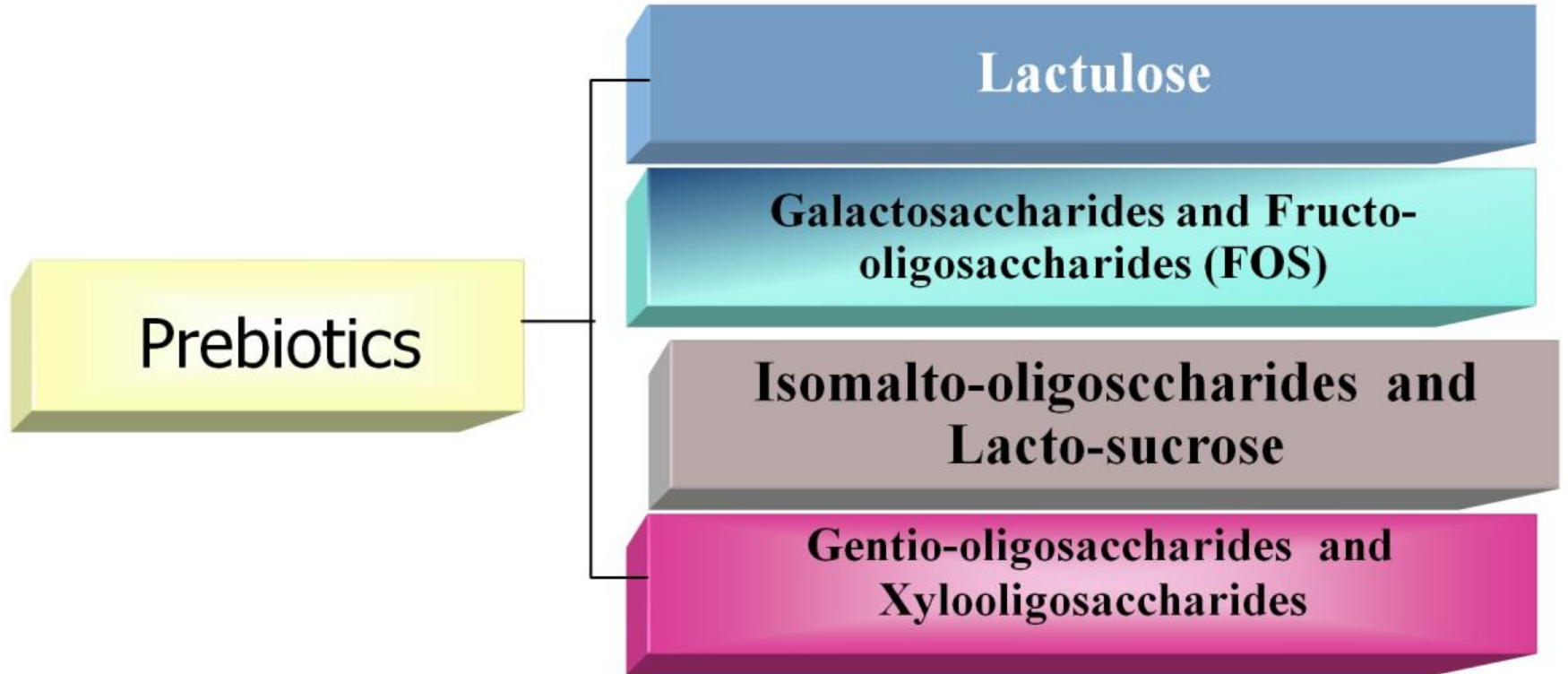
Functions of Prebiotics



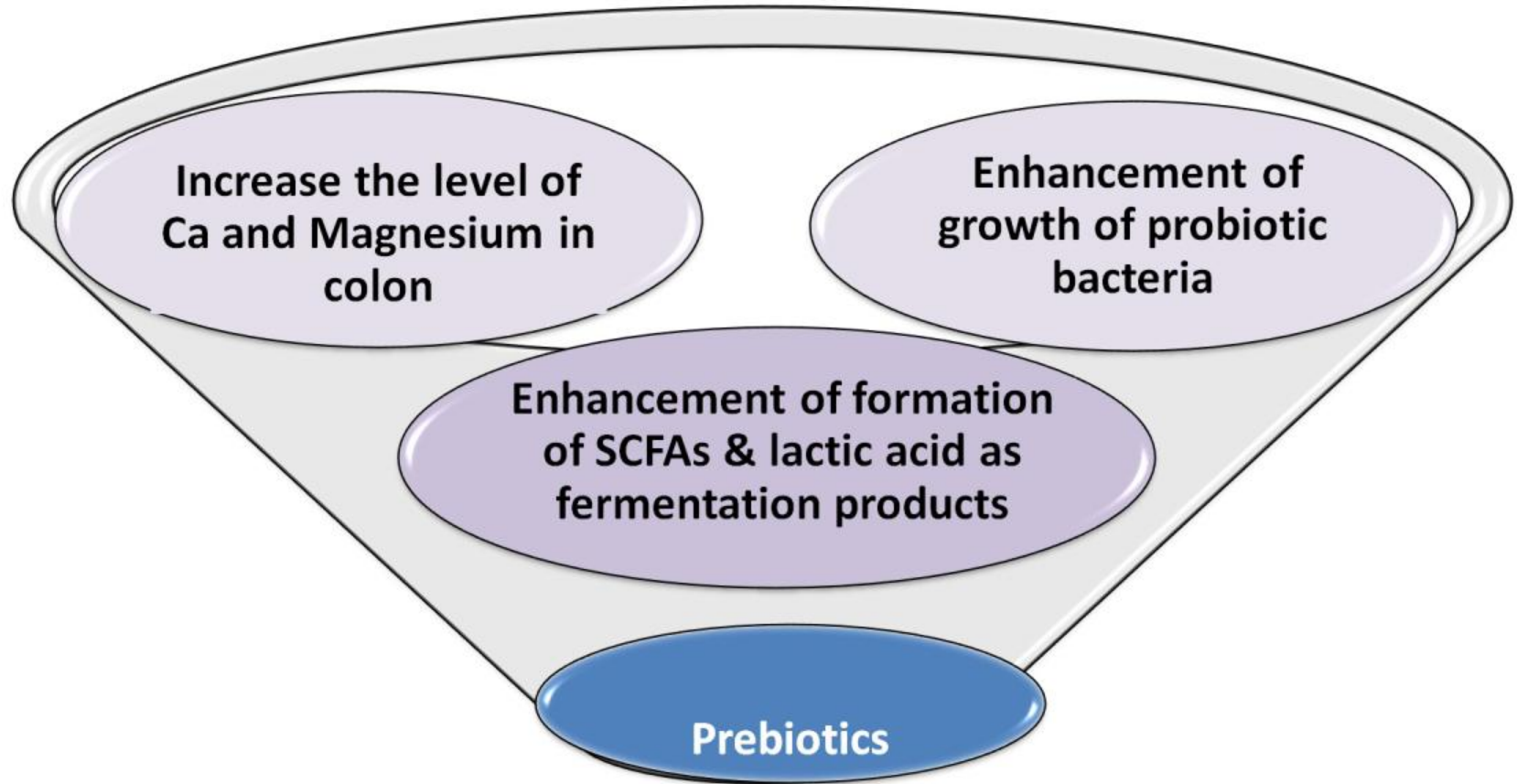
Criteria for classification of a food ingredient as prebiotic



Food grade commercial prebiotics



Mechanism of action of Prebiotics



Synbiotics

- The term *synbiotic* is used when a product contains both probiotics and prebiotics.

Example: Bifidobacteria and fructo-oligosaccharides (FOS)

Synbiotics

Prebiotics + Probiotics

1.

- Improved survival of probiotics during passage through upper GIT

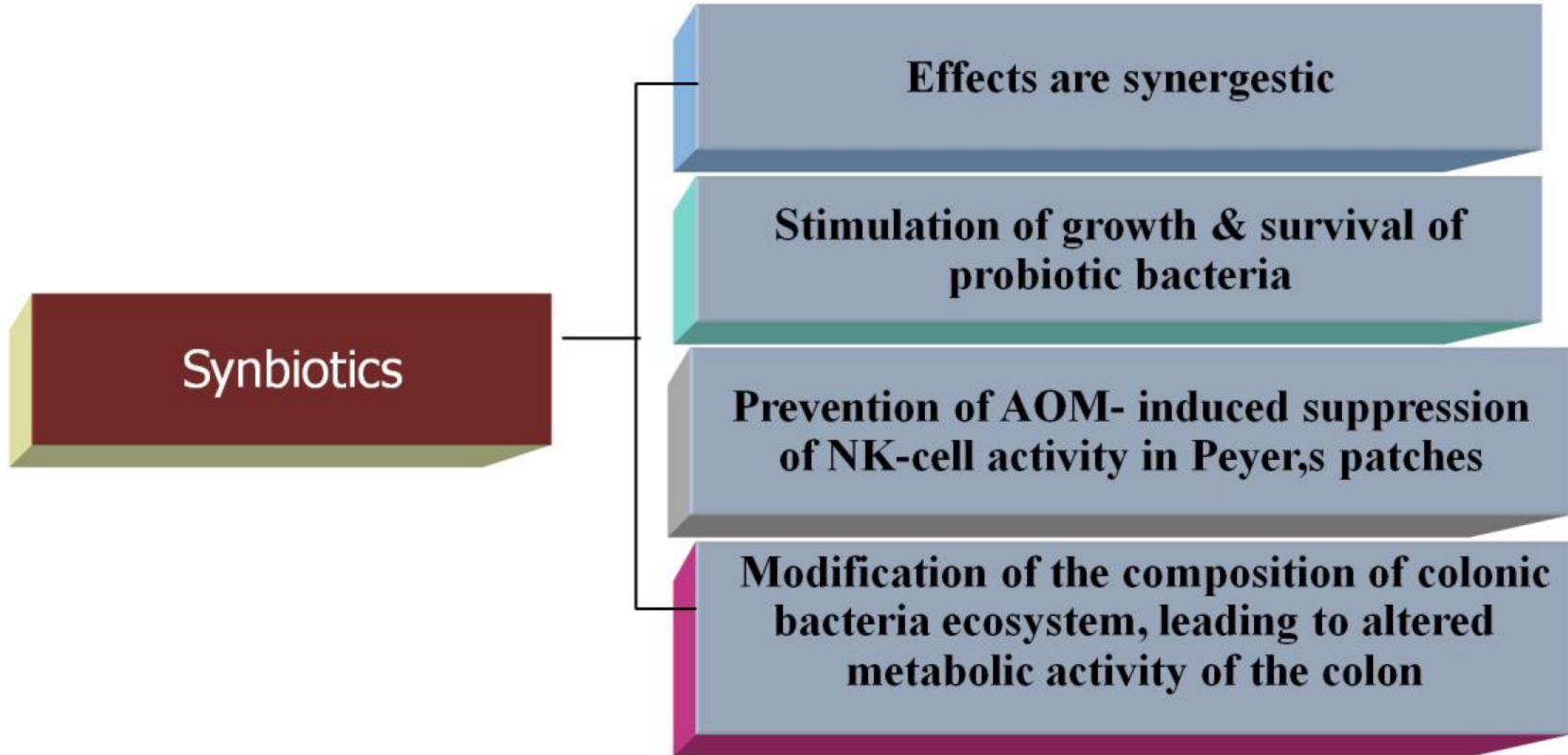
2.

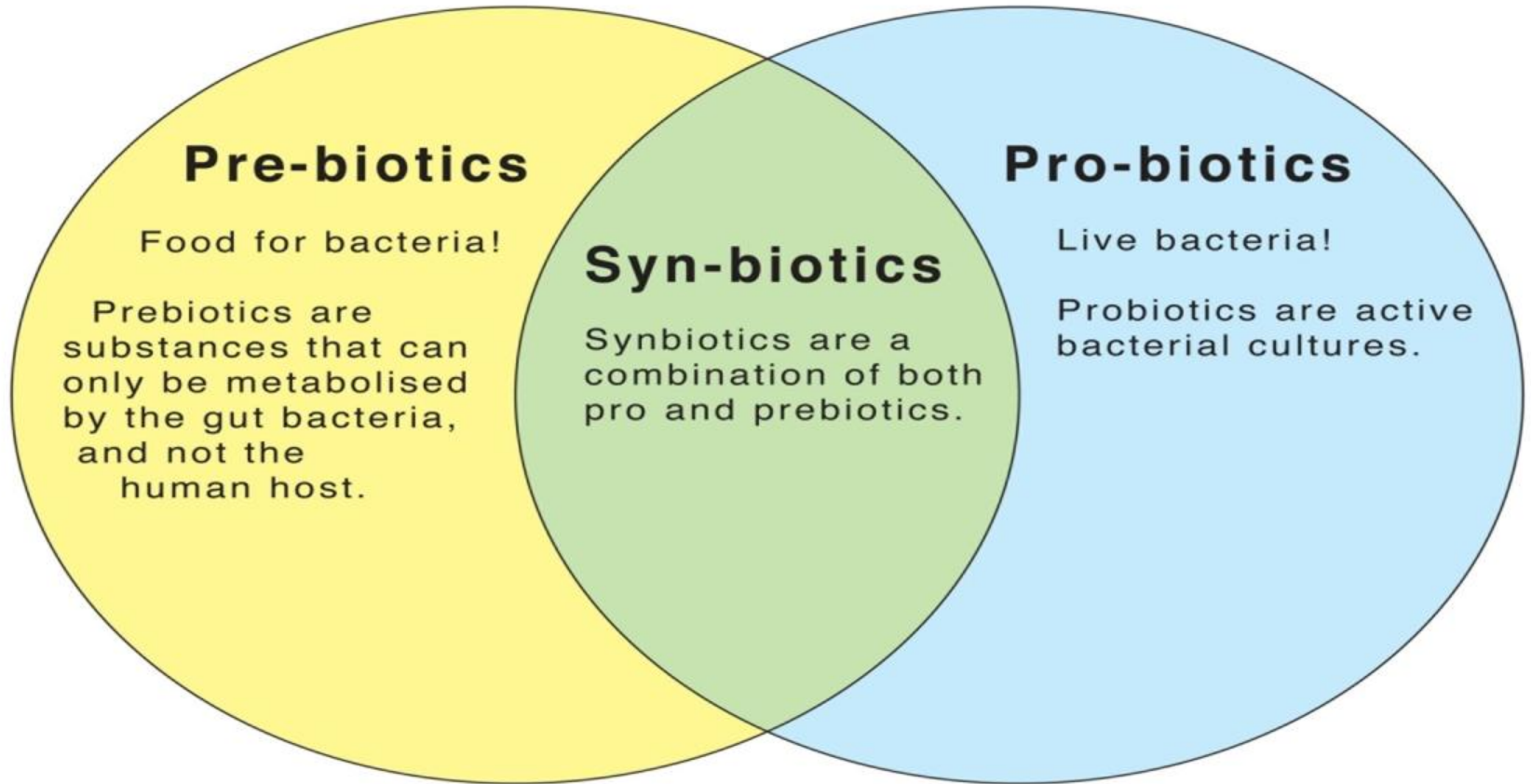
- Health advantage from live microbes that may
- Not ensure from prebiotics alone

3.

- Stimulation of probiotic growth by prebiotic components

Mechanism of action of synbiotics





Prebiotics vs Probiotics

Prebiotics

1. Prebiotics are defined as non-living, non-digestible special form of fiber or CHO's
2. The powder form of prebiotics can survive heat, cold and acid
3. Prebiotics perform their role by nourishing the bacteria that live in the intestine

Probiotics

1. Probiotics are referred to as live micro organisms that when administered in adequate amount will have beneficial effects to the host
2. They are more fragile
 - Vulnerable to heat
 - Their no. reduced over a period of time
3. Probiotics fight the harmful bacteria species present in the gut.