

1 Introduction

Among paediatric dosage forms, syrups have advantages :

- ✓ ease of **administration**;
- ✓ good **acceptability (taste)**;
- ✓ **self-preservation** properties.

→ The objective of our work is to test the effectiveness of antimicrobial preservation of **maltitol and glucose syrups** with or without preservatives (**sorbic acid**).

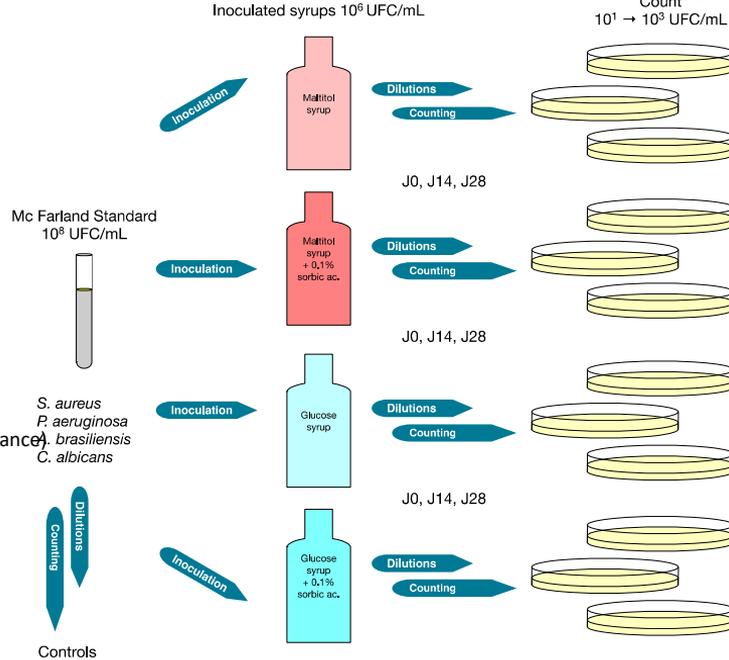
2 Materials and methods

The **preservation efficacy test** (PhEur. 01/2011:50103)

- ✓ **Maltitol** syrup (Lycasin® 80/55, Roquette, France)
- ✓ **Glucose** syrup (Roquette, France)

With or without 0.1% sorbic acid (Inresa, France)

Inoculation with standard strains (Bioballs®, BioMerieux SA, France)



3

Results

Validation of initial inoculums (10^8 UFC/mL) no cross contamination detected

MALTITOL	Log reduction	
	J ₁₄	J ₂₈
<i>Staphylococcus aureus</i>	5	No Inc
<i>Pseudomonas aeruginosa</i>	5	No Inc
<i>Candida albicans</i>	4	No Inc
<i>Aspergillus brasiliensis</i>	3	Inc

MALTITOL + 0.1 % AC. SORBIQUE	Log reduction	
	J ₁₄	J ₂₈
<i>Staphylococcus aureus</i>	6	No Inc
<i>Pseudomonas aeruginosa</i>	6	No Inc
<i>Candida albicans</i>	4	No Inc
<i>Aspergillus brasiliensis</i>	3	No Inc

GLUCOSE	Log reduction	
	J ₁₄	J ₂₈
<i>Staphylococcus aureus</i>	5	No Inc
<i>Pseudomonas aeruginosa</i>	5	No Inc
<i>Candida albicans</i>	4	No Inc
<i>Aspergillus brasiliensis</i>	2	Inc

GLUCOSE + 0.1 % AC. SORBIQUE	Log reduction	
	J ₁₄	J ₂₈
<i>Staphylococcus aureus</i>	5	No Inc
<i>Pseudomonas aeruginosa</i>	5	No Inc
<i>Candida albicans</i>	3	No Inc
<i>Aspergillus brasiliensis</i>	2	No Inc

No Inc : No increase
Inc : Increase

4 Discussion

→ Addition of **0.1% sorbic acid** allows the maltitol and glucose syrup to pass the test

- ✓ In the literature simple syrup also requires the addition of a preservative (methylparabens + propylparabens) to pass the test on *Aspergillus brasiliensis* (Santoveña-Estévez A et al. 2018)
- ✓ Sorbic acid has a better safety profile than propylparaben (EMA, 2015)

Syrups + 0.1% sorbic acid = simple answer (taste / preservation) to (re)discover