

GW :06

Exercise: Analysis of Trophic Types of Bacterial Strains

Analyze the trophic types of strains I and II using culture media A, B, and C (the composition of the media is provided in g/L).

Milieu A	
Phosphate d'ammonium.....	0.2
Phosphate monopotassique.....	1
Sulfate de magnésium.....	0.2
Chlorure de calcium.....	0.1
Chlorure de sodium.....	5
Milieu B	
Milieu A + Citrate trisodique	2
Milieu C	
Milieu A + les additifs suivants :	
Biotine	10 ⁻⁶
Histidine.....	10 ⁻⁵
Méthionine.....	2.10 ⁻⁵
Thiamine	10 ⁻⁶
Pyridoxine.....	10 ⁻⁶
Acide nicotinique.....	10 ⁻⁶
Tryptophane.....	2.10 ⁻⁵
Pantothénate de calcium.....	10 ⁻⁵
+ Oligoéléments	
+ glucose	5

Souche pure	A	B	C
I	-	+	+
II	-	-	+

- 1.1- How would you classify medium A?
- 1.2- Some bacteria might grow in medium A if incubated in an atmosphere enriched with CO₂. Explain why and indicate their trophic type in relation to carbon.
- 2.1- What is the trophic type of strain I in relation to carbon and specific nutritional requirements?
- 2.2- What is its nitrogen source?
- 2.3- It is recommended not to inoculate medium B from a broth or peptone water but rather from a colony on an agar medium. Explain why. Which agar medium with the same composition as medium B do you know?
- 3.1- What does glucose provide in medium C?
- 3.2- What is the trophic type in relation to carbon and energy metabolism?
- 3.3- Define and explain the presence of trace elements.
- 3.4- Which trace element is essential for *Corynebacterium diphtheriae* to produce its toxin?
- 3.5- The additive components of medium C belong to two distinct chemical groups. Which ones?
- 3.6- To which category do these components belong? Provide a definition.