

Selective and Differential Media

Medium	Key Ingredients	Function	Use
TSA	Tryptone, soytone (soy peptone), NaCl, agar	Supports growth of a variety of bacteria	General purpose medium
EMB	Lactose	Carbohydrate fermentation LF = dark purple growth NLF = pink, "lavender" growth	Differentiates LF from NLF Can differentiate <i>E. coli</i> from other gram (-) LF <i>E. coli</i> = green sheen
	Eosin & Methylene blue	Gives color to bacterial growth; inhibits gram (+)	Selects for gram (-);
MAC	Lactose	Carbohydrate fermentation LF = pink growth NLF = colorless, "not pink"	Differentiates LF from NLF <i>E. coli</i> ppts bile salts making agar pink
	Neutral red	pH indicator	Shows acid production from carbohydrate fermentation
	Crystal violet	Inhibits gram (+)	Selects for gram (-)
	Bile salts	Inhibits gram (+)	Selects for gram (-)
MSA	Mannitol	Carbohydrate fermentation MF = agar turns yellow NMF = agar stays red or turns fuchsia	Differentiates <i>S. aureus</i> from <i>S. epidermidis</i> base on MF
	Phenol red	pH indicator	Shows acid production from carbohydrate fermentation
	7.5% NaCl	Inhibits most bacteria other than <i>Staphylococcus</i>	Selects for <i>Staphylococcus</i>
PEA	Phenylethyl alcohol	Inhibits gram (-)	Selects for gram (+)
Blood agar	5% sheep's blood	Enriched medium allows fastidious bacteria to grow	Differentiates type of hemolysis
			α - hemolysis = partial degradation of blood β - hemolysis = total degradation of blood γ - hemolysis = no hemolysis