## **Selective and Differential Media**

blood β- hemolysis = total degradation of blood	Medium	Key Ingredients	Function	Use
LF = dark purple growth NLF = pink, "lavender" gram (-) LF E. coli = green sheen  Eosin & Methylene blue Gives color to bacterial growth; inhibits gram (+)  MAC Lactose Carbohydrate fermentation LF = pink growth NLF = colorless, "not pink" pH indicator Carbohydrate fermentation Carbohydrate fermentation Differentiates LF from NLF E. coli pst bile salts making agar pink pink pH indicator Selects for gram (-)  MSA Mannitol Carbohydrate fermentation MF = agar turns yellow NMF = agar t	TSA	Tryptone, soytone (soy peptone), NaCl, agar		General purpose medium
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MAC	ЕМВ	Lactose	LF = dark purple growth NLF = pink, "lavender" growth	Can differentiate <i>E. coli</i> from other gram (-) LF
LF = pink growth NLF = colorless, "not pink"   E. coli ppts bile salts making agar pink   Neutral red   pH indicator   Shows acid production from carbohydrate fermentation   Crystal violet   Inhibits gram (+)   Selects for gram (-)   Selects for Staphylococcus   Selects for Staphylococcus   Selects for Staphylococcus   Selects for gram (-)		Eosin & Methylene blue		Selects for gram (-);
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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 Phenol red Phenol red Phindicator Shows acid production from carbohydrate fermentation Phindicator Shows acid production from carbohydrate fermentation Selects for Staphylococcus  PEA Phenylethyl alcohol Inhibits gram (-) Selects for gram (+)  Blood agar 5% sheep's blood Enriched medium allows fastidious bacteria to grow  Crystal violet Inhibits gram (+) Selects for gram (+)  Differentiates type of hemolysis fastidious bacteria to grow  α- hemolysis = partial degradation of blood β- hemolysis = total degradation of blood	IWAC	Lactose	LF = pink growth	E. coli ppts bile salts making agar
MSA       Mannitol       Carbohydrate fermentation MF = agar turns yellow NMF = agar stays red or turns fuchsia       Differentiates S. aureus from S. epidermidis base on MF         Phenol red       pH indicator       Shows acid production from carbohydrate fermentation         7.5% NaCl       Inhibits most bacteria other than Staphylococcus       Selects for Staphylococcus         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 fastidious bacteria to grow         α- hemolysis = partial degradation of blood       β- hemolysis = total degradation of blood		Neutral red	pH indicator	
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MF = agar turns yellow NMF = agar stays red or turns fuchsia  Phenol red  Phe		Bile salts	Inhibits gram (+)	Selects for gram (-)
MF = agar turns yellow NMF = agar stays red or turns fuchsia  Phenol red  Phe	_			
Carbohydrate fermentation   T.5% NaCl   Inhibits most bacteria other than Staphylococcus   Selects for Staphylococcus	MSA	Mannitol	MF = agar turns yellow NMF = agar stays red or	
## PEA Phenylethyl alcohol Inhibits gram (-) Selects for gram (+)  ## Blood agar 5% sheep's blood Enriched medium allows fastidious bacteria to grow  ## Company of the properties of the prope		Phenol red	pH indicator	
Blood agar  5% sheep's blood  Enriched medium allows fastidious bacteria to grow  α- hemolysis = partial degradation of blood β- hemolysis = total degradation of blood		7.5% NaCl		Selects for Staphylococcus
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fastidious bacteria to grow  α- hemolysis = partial degradation of blood β- hemolysis = total degradation of blood	1 LA	1 Herry Cirry alcorror	minibits grain (-)	Ocicots for graffi (+)
blood β- hemolysis = total degradation of blood	Blood agar	5% sheep's blood		, , , , , , , , , , , , , , , , , , ,
$V_{-}$				β- hemolysis = total degradation of