

COMPARISON STUDIES OF ANAEROBIC CULTURE MEDIA  
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A comparison of OxyPRAS Plus Brucella agar and media currently used for the general culture of anaerobes was performed between July 25, 2012 and August 7, 2012. The data is shown in the Table 1. The colonies on the OxyPRAS Plus Brucella agar plates were about twice the size of those on standard TSA with blood. They are slightly larger than the ones on CDC anaerobic blood agar that was not pre-reduced. The difference is more noticeable with slower growing anaerobes than on more rapidly growing ones, like *Clostridium* spp. The blood in the Oxyrase plate did not seem to hemolyze as easily as a conventional blood agar plate; however, no specific data was collected on hemolysis.

Since the growth on the OxyPRAS Plus Brucella agar was more luxuriant than the plates we have been using, CDC anaerobic blood agar for anaerobic cultures and subculturing of anaerobic isolates for identification on the Vitek 2 will be replaced with OxyPRAS Plus Brucella agar in the future.

<b>Table 1.</b> Comparison of Growth Characteristics of Selected Anaerobic Bacteria on Brucella OXYPRAS, CDC Anaerobic Blood Agar, and TSA II + 5% Sheep Blood		
Organism	Colony Size @ 40 hrs	
	OxyPRAS Brucella	CDC AN BAP
<i>Bacteroides thetaiotaomicron</i>	4 mm	3 mm
<i>Bacteroides fragilis</i>	4 mm	3 mm
<i>Clostridium difficile</i>	5 mm	4 mm
<i>Clostridium perfringens</i>	6 mm	5 mm
<i>Peptostreptococcus</i> sp.	1 mm	pinpoint
<i>Eubacterium lentum</i>	2 mm	2 mm
<i>Propionibacterium acnes</i>	1 mm	1 mm
<i>Fusobacterium</i> sp.	2 mm	1 mm
Sterility Control	No growth	No growth

Incubation conditions: All plates were incubated at 36 C in an anaerobic environment generated by an Anoxomat II. All plates were incubated in the same anaerobic jar.

A comparative evaluation of the Oxyrase OxyPRAS Plus KVL plate and media currently used for the selective isolation of anaerobic gram negative bacilli (particularly *Bacteroides* and related organisms) was performed between August 23, 2012 and August 31, 2012. The data is shown in the Table 2. .

The OxyPRAS KVL performed well, but the CDC Anaerobic blood agar with KV did too. The decision on which of these media to use will be based on cost. The CDC + KV costs less than the OxyPRAS KVL; however, the OxyPRAS has a 6 month shelf life. A financial analysis will be performed to determine which medium is preferable.

<b>Table 2.</b> Comparison of Growth Characteristics of Selected Anaerobic Bacteria on OxyPRAS KVL, CDC Anaerobic Blood Agar + KV, Columbia CNA, and TSA II + 5% Sheep Blood. OxyPRAS Brucella was used as a growth control	
Organism	Colony Size @ 60 hrs

	OxyPRAS Brucella	OxyPRAS KVL	CDC AN BAP	Columbia CNA
Bacteroides thetaiotaomicron ATCC 29741	2 mm Semi-mucoid	2 mm Semi-mucoid	2 mm Semi-mucoid	2 mm Semi-mucoid
Bacteroides ovatus BAA 1296	3 mm mucoid	3 mm mucoid	3 mm mucoid	1 mm Semi-mucoid
Prevotella bivia	2 mm Semi-mucoid	2 mm Semi-mucoid	2 mm Semi-mucoid	2 mm Semi-mucoid
Prevotella melaninogenica	1 mm - pigmented	1 mm - pigmented	1 mm - pigmented	No growth
Enteric Mixture  Bacteroides fragilis Bacteroides ovatus Streptococcus agalactiae Escherchia coli Peptostreptococcus sp. Klebsiella pneumoniae Enterococcus faecalis	Heavy growth of mixed organisms all organisms present, but poor isolation	B. fragilis and B. ovatus only  very good growth and isolation	B. fragilis and B. ovatus only  very good growth and isolation	All organisms present except E. coli and K. pneumoniae  Colonies smaller than CDC and PRAS
Uninoculated Sterility Control	No growth	No growth	No growth	No growth

Incubation conditions: All plates were incubated at 36 C in an anaerobic environment generated by an Anoxomat II. All plates were incubated in the same anaerobic jar.