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Section: Technical Manual	Subject Title: Mug Test (PGUA)	
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MUG TEST (PGUA)

Principle

If an organism produces the enzyme glucuronidase it will break down the substrate ortho-nitrophenyl-beta-glucuronide liberating the ortho-nitrophenyl producing a yellow colour. This test is used, in conjunction with others, for the identification of *E. coli*.

Reagents and Materials

PGUA tablets
13x100mm tubes
Tryptone water
Kovac's reagent

Procedure

1. Prepare a dense suspension of the test organism (lactose-fermenter only) in 0.25 mL of the tryptone water.
2. Add 1 PGUA tablet to the tube.
3. Incubate at 36°C for 4 hours.
4. Examine the tube for development of a yellow colour.
5. Add 1 drop of Kovac's Indole reagent and observe for the development of a red colour.

Interpretation

MUG positive: Yellow colour
MUG negative: Colourless

Indole positive: Red colour after addition of Kovac's
Indole negative: Kovac's remains yellow

<u>MUG</u>	<u>INDOLE</u>	<u>INTERPRETATION / ACTOIN</u>
+	+	report as <i>E. coli</i>
-	+	set up VITEK Identification
+	-	set up VITEK Identification
-	-	set up VITEK Identification

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Precautions

1. *E. coli* O157:H7 and non-motile strains which produce verotoxin are MUG test negative.

Quality Control

The following controls are tested weekly:

	<u>MUG</u>	<u>INDOLE</u>
<i>E. coli</i> (ATCC 25922)	+	+
<i>P. mirabilis</i> (ATCC 12453)	-	-

Reference

1. Prolab package insert