


FT-A8DG50



Resorufin-beta-D-glucuronic acid methyl ester

Product Description

Name :	Resorufin-beta-D-glucuronic acid methyl ester (RUG)	
Catalog Number :	FP-A8DG50 , 100mg FP-A8DG51 , 250mg FP-A8DG52 , 500mg	
Structure & Properties:	$C_{19}H_{17}NO_9$ MW= 403.34 g/mol Soluble: ≥ 12 mg/mL in dimethyl sulfoxide ≥ 10 mg/mL in dimethyl formamide Absorption / Emission: $\lambda_{exc} \lambda_{em} (MeOH) = 570 / 600$ nm	
physical		
optical		
Storage:	$-20^{\circ}C$ Protect from light and moisture	

Introduction

Escherichia coli is the most important indicator organism for fecal contamination of drinking water, surface water, food and beverages. Living cells of this bacterium can be reliably detected with media that contain a chromogenic or fluorogenic substrate for beta-glucuronidase, an enzyme that occurs with few exceptions exclusively in E. coli.

Resorufin-beta-D-glucuronic acid methyl ester (RUG) is a highly sensitive chromogenic and fluorogenic indicator for E. coli. After removal of the methyl ester group by unspecific hydrolysis, orange colored product is cleaved by beta-glucuronidase in liquid media or on agar plates and yields an intense pink color. Red fluorescence is obtained upon excitation at 560-570 nm.

Color and fluorescence formation is due to restoration of the conjugated system of resorufin, one the strongest know fluorophores.

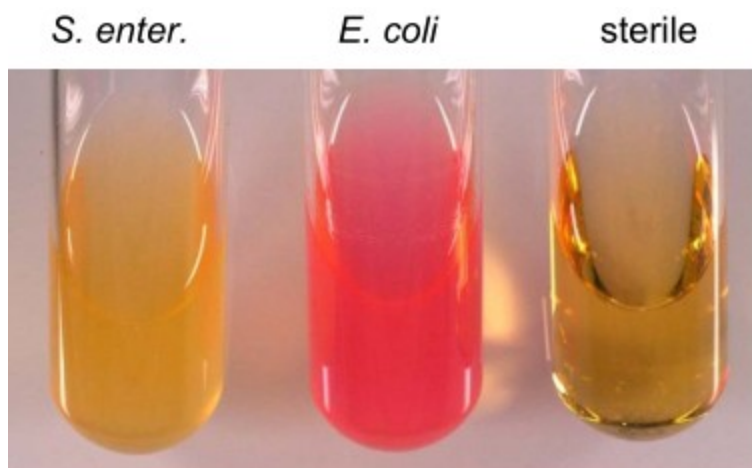
Well detectable color/fluorescence of bacterial colonies or liquid cultures is obtained within 12-24 h. In the presence of esterase and beta-glucuronidase, color and fluorescence develops within minutes.

Application example 1

Escherichia coli ATTC 25922 and *Salmonella enteritidis* RKI 05/07992 were inoculated at 20 CFU per mL in AT E. coli detection broth containing 12 mg/L RUG. Tubes were incubated at 37°C and 150 rpm.

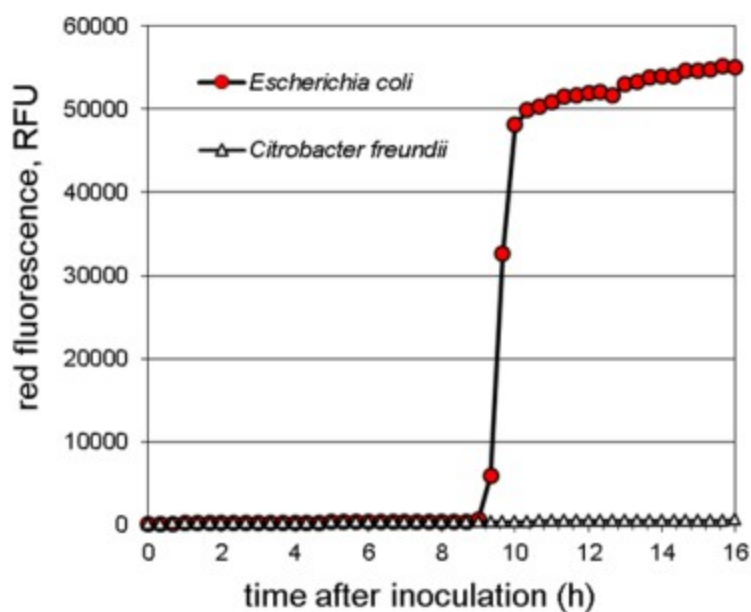
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Coloration after 22 h:



Application example 2

Escherichia coli ATCC 10536 and *Citrobacter freundii* ATCC 8090 were inoculated at 10 CFU per well in a microplate containing nutrient broth with 0.1 mM RUG. The plate was incubated at 37°C with intermittent shaking in a plate reader and fluorescence was recorded every 20 min (excitation: 570 nm, emission : 600 nm).



Directions for use

1. Guidelines for use

Add RUG, as filter-sterilized, concentrated stock solution to the autoclaved/sterilized medium.

Solubility: ≥ 12 mg/mL in dimethyl sulfoxide
 ≥ 10 mg/mL in dimethyl formamide

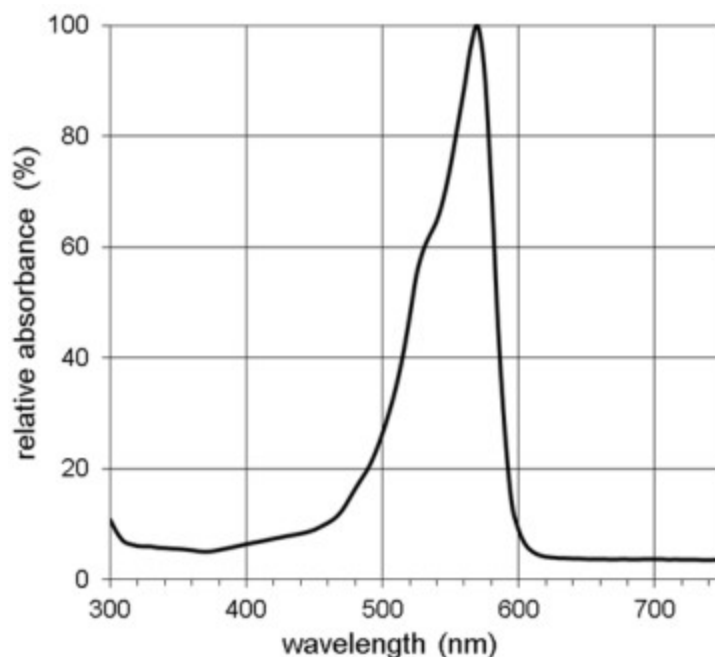
Recommended working concentrations:

For coloration and/or fluorescence add 12 mg/L RUG to liquid or solid growth medium (1 mL of 12 mg/mL stock solution per L)

RUG was stable for 2 months in a dry medium formulation stored at 22-25°C.

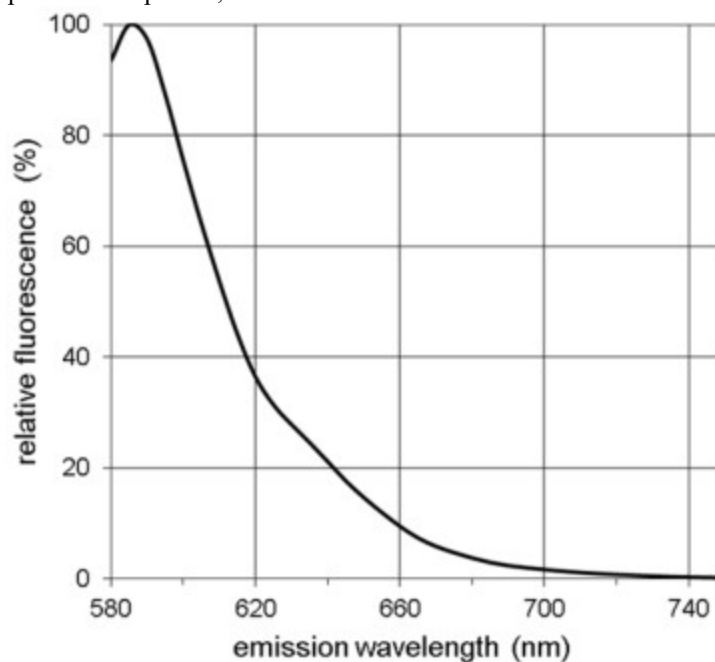
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2. Absorbance spectrum



3. 50 µM resorufin in phosphate buffer pH 7.0 Fluorescence emission spectrum

50 µM resorufin in phosphate buffer pH 7.0, excitation at 565 nm



Resorufin exhibits red fluorescence upon excitation with light in the visible range, maximal fluorescence intensity is obtained with excitation at 550-570 nm.

Reference strains

Escherichia coli ATCC 25922, positive in aerobic culture

Escherichia coli ATCC 10536, positive in aerobic culture

Citrobacter freundii ATCC 8090, negative in aerobic culture

Salmonella enteritidis RKI 05/07992, negative in aerobic culture

Legals & Disclaimer

This product is sold for Research & Development in vitro use only.
Biosynth patent protection by EP 2718458, US 9127303

Ordering information

Catalog size quantities and prices may be found at <http://www.interchim.com>.
Please inquire for higher quantities (availability, shipment conditions).

For any information, please ask : FluoProbes® / Interchim; Hotline : +33(0)4 70 03 73 06

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