

PERFORMANCE TESTED
AOAC
RESEARCH INSTITUTE
LICENSE NUMBER 061002

Same Day Total Viable Counts
(TVC, APC) Analysis of Foods

GreenLight[™]
Model 960

FOOD SAFETY

The Low-Cost, High Throughput System Providing Microbiological
Analysis in Hours Including Sample Preparation and Incubation Time



Illuminating Discovery[®]

Model 960 Specifications

GreenLight™ 960 is a simple high-throughput test that provides total aerobic viable counts (TVC, APC) of food samples by measuring bacterial oxygen consumption and equating oxygen consumption to microbial load. As bacteria in the test sample grow and respire they deplete O₂ which is detected as an increase in the GreenLight™ probe signal above the baseline level. The time required to reach this increase in signal is used to calculate the CFU/g of the original food sample, based on a pre-determined calibration.

The GreenLight™ test can provide results within hours, providing rapid, easy and sensitive enumeration of bacterial load without the need to conduct multiple sample dilutions and lengthy, tedious counts on agar.

GreenLight™ 960 can be used to determine TVC's of a wide range of food types and is AOAC approved for the determination of TVC's in raw meats including frozen ground beef, lamb, pork, chicken and turkey.

Approval for other food types is pending.

Feature	Benefit
Fast results/ Same-day turnaround	<ul style="list-style-type: none"> Results reported within hours including sample prep time: <ul style="list-style-type: none"> TVC level of ~1x10⁸ CFU/g in under 45mins TVC level of ~1x10⁶ CFU/g in under 5hrs
Cost-Effective	<ul style="list-style-type: none"> 1 GreenLight assay (96 well format) equivalent to ~200-300 agar plates Reduce spend on: plastics, media, consumables, storage and incubation space Extensive savings on labour costs
Simple protocol / Easy to perform	<ul style="list-style-type: none"> Sample prep same as agar method with no dilutions Minimal training and "hands on" time required Easy "mix and measure"
High Through-put capability	<ul style="list-style-type: none"> 96 well plate format Automatable on standard fluorescence plate readers
Easy Interpretation of Results	<ul style="list-style-type: none"> Calculated results displayed on instrument readout Quantitative (CFU/g or Log CFU/g), pass/fail or visual inspection
High Quality, Certified Assay	<ul style="list-style-type: none"> AOAC certified for 5 specific food types Additional food types pending
Comparable to reference method	<ul style="list-style-type: none"> Excellent correlation with agar method (ISO:4833:2003)
Preventative approach to food safety	<ul style="list-style-type: none"> Results available before food hits the shelves or leaves the factory Ideal for intake, process and end product control

Results processed and displayed automatically

A variety of testing protocols available

- Simple two point Pass/Fail
- Multipoint – Gives Pass/Fail and semi quantitative TVC (CFU/g) level
- Continuous mode – Gives Pass/Fail and quantitative TVC (CFU/g) level

Specifications for GreenLight™ test

Time to result including sample prep

0.5 - 12hrs

TVC Range (for raw meats+poultry)

10³ to 10⁸ CFU/g

Typical Set up Time

15 - 60 minutes

Test Modes

Pass/Fail or Quantitative / Semi-Quantitative

Assay Sizes

Runs on standard 96 or 384 well microwell plates

Test Temperature

Adjustable as required: Standard 30°C

Incubation Temperature

Adjustable as required

Typical testable products

Raw meats, chicken, turkey, beef, pork, lamb, sea foods, vegetables, dairy and final food products

AOAC Certification number 061002

Approved for raw meats, other approvals pending.

Instrument Type

Fluorescence Plate Reader

Optimal Optic Settings

Excitation – 380 nm

Emission – 650 nm

Options

Stacker and robotics for increased sample throughput and labor reduction

Distributed By:

References

1. O'Mahony F, Green RA, Baylis C, Fernandes R, and Papkovsky DB, Analysis of total aerobic viable counts in samples of raw meat using fluorescence-based probe and oxygen consumption assay.

Food Control 20: 129-135, 2009

2. O'Mahony F and Papkovsky DB. Rapid high-throughput assessment of aerobic bacteria in complex samples by fluorescence-based oxygen respirometry.

Appl Environ Microbiol 72: 1279-1287, 2006



Illuminating Discovery®

Luxcel BioSciences specialise in the development and manufacture of luminescence based sensors and related biological tests. Currently, we have sensors and tests in the following areas:

- Rapid Microbial tests for pharmaceutical applications
- High through-put tests for environmental water quality monitoring
- Assays for mitochondrial function, metabolism and toxicity screening

www.luxcel.com

For US enquiries contact:

mocon®

7500 Mendelssohn Ave N
Minneapolis / MN 55428 USA

Phone 763-493-6370

Fax 763.493.6358

E-Mail info@mocon.com

www.mocon.com/foodsafety.php

For EU/ROW enquiries contact:

Luxcel BioSciences

BiInnovation Centre
UCC / Cork / Ireland.

Email info@luxcel.com

www.luxcel.com

