Bioluminescent Lipid Metabolism Assays

Quantitative, Sensitive Detection With Easy Sample Prep

Glycerol-Glo™ Assay

Directly detect glycerol in biological samples.

Detect Glycerol Release Over Time

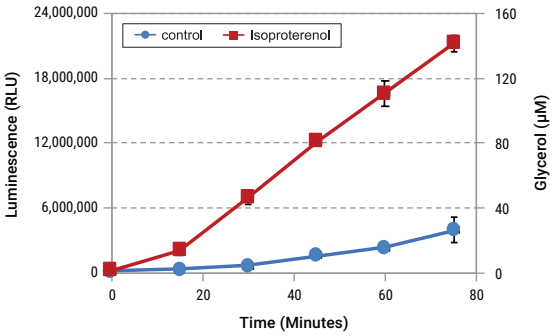

Figure 1. Glycerol release from adipocytes over time. Differentiated 3T3L1-MBX fibroblasts were treated with or without 10µM isoproterenol to stimulate glycerol release. At indicated timepoints, aliquots of medium were removed, diluted twofold and measured with the Glycerol-Glo™ Assay.

Cholesterol/Cholesterol Ester-Glo™ Assay

Directly detect free cholesterol or cholesterol esters. Use for intracellular or extracellular measurements and serum samples.

Detect Intracellular and Extracellular Cholesterol Levels

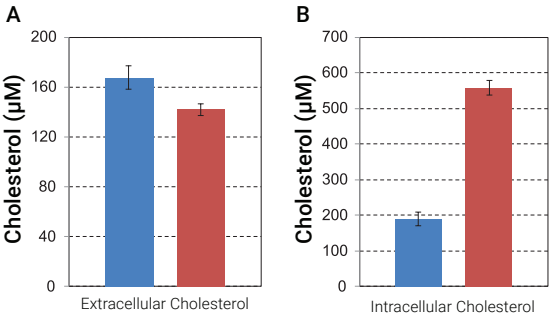

Figure 2. Fatty acid effects on intracellular and extracellular cholesterol in HepG2 cells. HepG2 cells were plated overnight in the absence (blue bars) or presence (red bars) of linoleic and oleic acid bound to BSA. Extracellular cholesterol and intracellular cholesterol were measured with the Cholesterol/Cholesterol Ester-Glo™ Assay.

Triglyceride-Glo™ Assay

Directly detect triglycerides in biological samples. Use with NASH/NAFLD liver models, adipocytes and other sample types.

Detect Triglyceride Levels in Cancer Cell Lines

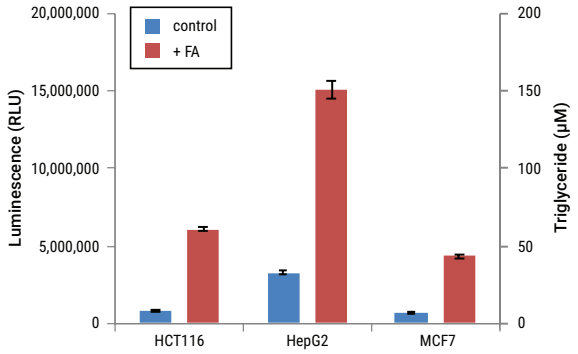

Figure 3. Ten thousand cells of three cell lines (HCT116: colon cancer cell line; HepG2: hepatocarcinoma cell line; MCF7: breast cancer cell line) were plated overnight in the absence (control) or presence (+ FA) of 0.3mM linoleic & oleic acid bound to BSA (Sigma Cat.# L9655). After media removal, cell washing and lipase treatment, 12.5µl aliquots of the treated samples were diluted into 37.5µl of Glycerol Lysis Solution and assayed with the Triglyceride-Glo™ Assay.

Assay Advantages

No Organic Extraction Required:
Detergent extraction efficiently extracts lipids with a one-step no-heat protocol.

Requires Only a Luminometer:
No specialized instrument, consumables or media required.

Sensitive with Large Linear Range:
Better discriminate small changes in lipid metabolite levels.

Compatible with Multiple Sample Types:
Quantitate lipids from cell culture, serum, plasma or tissue samples.

Assay Workflow

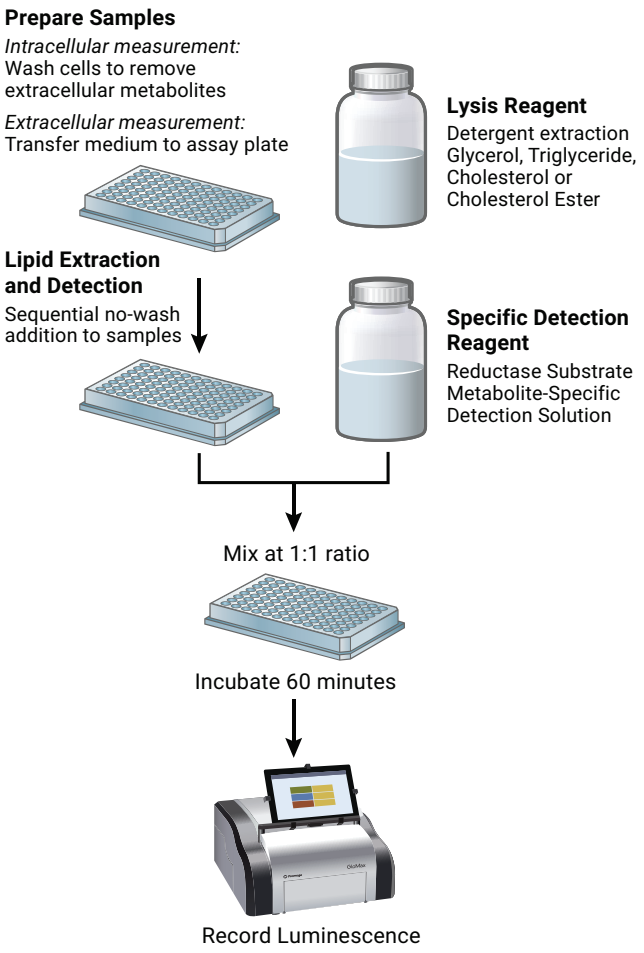

Figure 4. Sample preparation and protocol overview.

Assay Chemistry

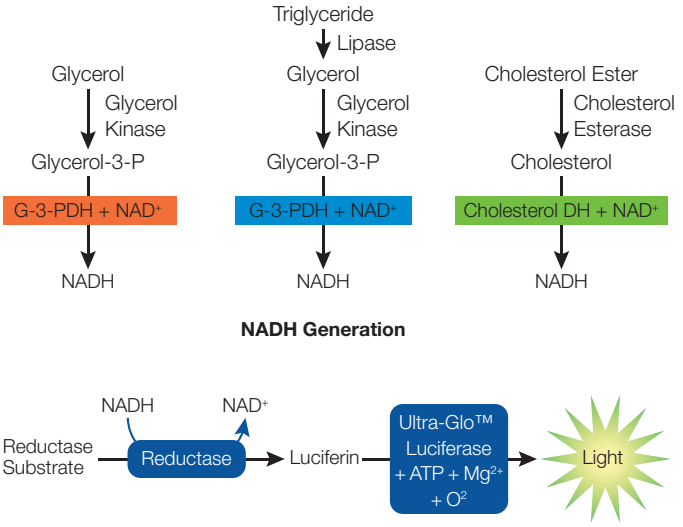

Figure 5. Metabolite Detection Assay Principle. A metabolite-specific dehydrogenase catalyzes the oxidation of the metabolite with concomitant reduction of NAD^+ to NADH. In the presence of NADH, reductase enzymatically reduces a proluciferin reductase substrate to luciferin. Luciferin is detected in a luciferase reaction by adding Ultra-Glo™ Luciferase and ATP, and the amount of light produced is proportional to the amount of metabolite in the sample.

Find More Information

Learn more about our broad portfolio of bioluminescent metabolite assays.

www.promega.com/metabolism

Ordering Information

Product	Size	Cat.#
Glycerol-Glo™ Assay	5ml	J3150
	50ml	J3151
Triglyceride-Glo™ Assay	5ml	J3160
	50ml	J3161
Cholesterol/Cholesterol Ester-Glo™ Assay	5ml	J3190
	50ml	J3191

