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Protocol for Emulate Organ-Chips:

Cholesterol Quantification Assay

April 4, 2019

EP132 v1.0

TITLE Cholesterol Quantification Assay	DOCUMENT EP132	VERSION 1.0
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Goals:	Key Steps:	Other Required Materials:
Quantify cholesterol from Organ-Chip effluent	<ul style="list-style-type: none"> • Effluent collection • Cholesterol reading • Hepatocyte medium composition adjustment 	<ul style="list-style-type: none"> • Cholesterol Assay Kit (Abcam #A12216) • Plate reader

1. Method

Sample type	Effluent For best results, use hepatocyte media without FBS and with ITSG (ThermoFisher #41400045) instead of the ITS premix that is used as normal Liver-Chip media. See Protocol EP124 Effluent Sampling.
Recommended effluent dilution (Liver-Chip)	No dilution, or up to 1:10 (at flow rate 30 μ L / h) Note: Cholesterol concentration of media may change assay dilution range. Adjust accordingly.
Run assay as described on vendor site	https://www.thermofisher.com/order/catalog/product/A12216 Use vendor fluorometric protocol for best results.
Sample quantification recommended	$Chol_{Net} = Chol_{effluent} - Chol_{dosing\ media}$ Chol _{Net} = Net effluent cholesterol (μ g / mL) Chol _{effluent} = Cholesterol from effluent (μ g / mL) Chol _{dosing media} = Cholesterol from dosing media (μ g / mL)

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