

Fumarate Assay Kit

Cat. No. Kit-2075 **Lot. No.** (See product label)

SPECIFICATION

Product Overview	The fumarate assay kit is based on fumarase catalyzed hydration of fumarate to malate. The malate is then oxidized by malate dehydrogenase generating NADH which reduces a formazan (MTT) dye. The intensity of the product color, measured at 565 nm is proportional to the fumarate concentration in the sample.
Size	100 tests
Description	FUMARATE, or Fumaric Acid, is one of the key components in TCA cycle and is used by cells to form ATP. Human skin when exposed to sunlight will naturally produce fumaric acid. Fumarate is used as an additive by the food and beverage industries. Fumaric acid esters are also used to treat psoriasis. Increased urinary fumarate may be due to impaired Krebs cycle function, a defect in the enzyme fumarase or mitochondrial function.
Applications	For quantitative determination of fumarate and drug effects on its metabolism.
Storage	The kit is shipped on ice. Store all components at -20°C upon receiving. Shelf life: 6 months after receipt.
Kit Components	Assay Buffer: 10 mL Enzyme A: 120 µM NAD/MTT: 1 mL Enzyme B: 120 µM Standard: 1 mL 20 mM Fumarate FMR Enzyme: 120 µM
Detection method	OD565nm
Compatible Sample	Food, beverage and other biological samples (e.g. cell lysate, tissue homogenate,

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Types	serum)
Features & Benefits	• Fast and sensitive. Use of 20 μ sample. Linear detection range 0.005 to 2 mM fumarate in 96-well plate assay. • Convenient. The procedure involves adding a single working reagent, and reading the optical density after 30 minutes. Room temperature assay. No 37°C heater is needed. • High-throughput. Can be readily automated as a high-throughput 96-well plate assay for thousands of samples per day.
Assay time	30 min
Sensitivity	Detection Limit: 5 μ M

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