

# Glutamate Oxidase Fluorometric Assay Kit (Near Infrared)

**Cat. No.** Kit-0385    **Lot. No.** (See product label)

## SPECIFICATION

### Product Overview

Glutamate Oxidase Assay Kit (Fluorometric-Near Infrared) provides a quick and an ultrasensitive method for the measurement of glutamate oxidase in solution and in cell lysates. In the assay, L-glutamic acid is oxidized to  $\alpha$ -ketoglutarate,  $\text{NH}_3$  and  $\text{H}_2\text{O}_2$  by glutamate oxidase. The kit uses our AbRed Indicator substrate which can react with  $\text{H}_2\text{O}_2$  when catalyzed by horseradish peroxidase (HRP) to generate the highly fluorescent product. The signal can be read with either a fluorescence microplate reader at Ex/Em = 530-570 nm/590 -600 nm (optimal Ex/Em = 540 nm/590 nm) or an absorbance microplate reader at 576 $\pm$ 5 nm. With the Glutamate Oxidase Assay Kit (Fluorometric-Near Infrared), we have detected as little as 40  $\mu\text{U/mL}$  glutamate oxidase in a 100  $\mu$  reaction volume. It can be performed in a convenient 96-well or 384-well microtiter-plate format and easily adapted to automation without a separation step.

### Description

Glutamate oxidase specifically catalyzes the oxidative deamination of L-glutamate in the presence of water and oxygen with the formation of ketoglutarate, ammonia, and hydrogen peroxide. Glutamate oxidase can be used as an analytic reagent and as a basis for developing biosensors for the determination of L-glutamate, L-glutamine, ammonia, and creatinine. These biosensors can be used in clinical biochemistry for the determination of glutamate-pyruvate transaminase and glutamate-oxalacetate transaminase in biological fluids, which makes the early diagnosis of heart and liver diseases possible.

### Applications

Functional Studies

 Tel: 1-631-559-9269    1-516-512-3133

 Email: [info@creative-biomart.com](mailto:info@creative-biomart.com)     Fax: 1-631-938-8127

 45-1 Ramsey Road, Shirley, NY 11967, USA

|                                |                                                                                                                                                                                            |
|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Target Species</b>          | Reacts with: Human Predicted to work with: all Mammals                                                                                                                                     |
| <b>Storage</b>                 | Keep at -20°C. Avoid exposure to light                                                                                                                                                     |
| <b>Kit Components</b>          | Components 200 tests<br>AbRed Indicator 1 vial<br>Assay Buffer 1 x 20ml<br>DMSO 1 x 200µl<br>Glutamate Oxidase Standard 1 vial<br>Glutamic Acid 1 x 3.4mg<br>Horseradish Peroxidase 1 vial |
| <b>Compatible Sample Types</b> | Cell Lysate                                                                                                                                                                                |
| <b>Sensitivity</b>             | 40 uU/ml                                                                                                                                                                                   |

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