



PRODUCT INFORMATION & MANUAL

Glutathione Reductase Activity Coefficient/GRAC Assay Kit (Colorimetric) *NBP3-25811*

For research use only.
Not for diagnostic or therapeutic
procedures.

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Novus kits are guaranteed for 6 months from date of receipt

(FOR RESEARCH USE ONLY. DO NOT USE IT IN CLINICAL DIAGNOSIS !)

Glutathione Reductase Activity Coefficient (GRAC) Colorimetric Assay Kit

Catalog No: NBP3-25811

Method: Colorimetric method

Specification: 100Assays (Can detect 48 samples without duplication)

Measuring instrument: Spectrophotometer

This manual must be read attentively and completely before using this product.

If you have any problems, please contact our Technical Service Center for help.

Please kindly provide us the lot number (on the outside of the box) of the kit for more efficient service.

Application

This kit can be used for detection of Glutathione Reductase Activation Coefficient in samples, such as animal whole blood, serum (plasma), tissues etc.

Determination significance

Ribofavin binds zymoprotein into all kinds of flavoprotein in the form of FDA in vivo. It participates in redox process as electron transfer system. When ribofavin is deficient, it will produce a range of symptoms on skin, mucosa, ocular region etc. In order to find ribofavin deficiency in early stage and take control measures in time, it is necessary to evaluate the nutritional status of ribofavin.

When ribofavin is deficient, Glutathione Reductase Activation Coefficient increases rapidly; and it decreases to normal after replenishing ribofavin. So Glutathione Reductase Activation Coefficient (GRAC) is an accurate indicator of overall ribofavin level in vivo when affected with chronic ribofavin deficiency. Using GRAC value to evaluate the nutritional status of ribofavin has advantages such as sensitivity, stability, accuracy, microscale, and reflection of internal metabolic status.

Experimental instruments

Tube, Micropipettor, Vortex mixer, Low-speed centrifuge, 37°C thermostat water bath (gas bath), Spectrophotometer (420 nm)

Operation steps

	Blank tube	Sample tube	Sample blank tube
Double-distilled water (μL)	270		
Sample (μL)		300	300
Reagent 1 (μL)	300	250	300
Reagent 2 (μL)		20	20
Reagent 3 (μL)	50	50	50
Reagent 4 (μL)	50	50	
Incubate at 37°C for 30 min.			
Reagent 5 (μL)	800	800	800
Mix and centrifuge at 4000 rpm for 10 min.			
Supernatant (μL)	300	300	300
Reagent 6 (μL)	1000	1000	1000

Mix and stand for 5 min. Measure the OD values of each tube at 420 nm with 0.5 cm diameter cuvette and set to zero with double-distilled water.

Calculation of results

$$\text{Glutathione Reductase Activation Coefficient (GRAC)} = \frac{\text{OD}_{\text{Sample}} - \text{OD}_{\text{Blank}}}{\text{OD}_{\text{Sample blank tube}} - \text{OD}_{\text{Blank}}}$$