GLUCOSE 6-PHOSPHATE DEHYDROGENASE from *E. coli* (Lot 160301a)

Recombinant

E-GPDHEC **09/20**

(EC 1.1.1.49) D-glucose-6-phosphate:NADP+ 1-oxidoreductase

PROPERTIES

1. ELECTROPHORETIC PURITY:

- Single band on SDS-gel electrophoresis (MW ~ 56,770)
- Single major band on isoelectric focusing (pI ~ 5.8)

2. SPECIFIC ACTIVITY:

160 U/mg protein at pH 7.6 and 25°C.

One Unit of glucose 6-phosphate dehydrogenase (G6PDH) is defined as the amount of enzyme required to produce one µmole of NADPH from $NADP^+$ per minute under the following assay conditions:

Imidazole buffer, pH 7.6	168 mM
D-Glucose 6-phosphate	5.0 mM
$MgCl_2$	8.0 mM
$NADP^+$	1.05 mM

3. RELATIVE RATES OF HYDROLYSIS OF SUBSTRATES:

Enzyme Measured	Substrate	%
Glucose 6-phosphate dehydrogenase	D-glucose 6-phosphate	100
Hexokinase	D-glucose	~ 0.02
Lactate dehydrogenase	pyruvic acid	< 0.001
Myokinase	AMP	< 0.001
NADH oxidase	NADH	< 0.001
NADPH oxidase	NADPH	< 0.001
6-Phosphogluconate dehydrogenase	D-gluconic acid	< 0.001
Phosphoglucomutase	D-glucose 1-phosphate	< 0.001

4. PHYSICOCHEMICAL PROPERTIES:

Recommended conditions of use are at pH 7.6 and up to 25°C.

5. STORAGE CONDITIONS:

The enzyme is supplied as an ammonium sulphate suspension and should be stored at 4°C. For assay, this enzyme should be diluted in 200 mM Imidazole buffer, pH 7.6 containing 1 mg/mL BSA. **Swirl to mix the enzyme suspension immediately prior to use.**