Glucose-6-phosphate dehydrogenase from *Leuconostoc mesenteroides* (Lot 130601)

E-GPDH5 **09/15**

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

PROPERTIES

1. ELECTROPHORETIC PURITY:

- Single band on SDS-gel electrophoresis (MW = 54,441)
- Single major band on isoelectric focusing (pI = 4.81)

2. SPECIFIC ACTIVITY AND LEVEL OF OTHER ACTIVITIES:

668 U/mg protein at pH 7.8 and 30°C;

One Unit of Glucose-6-phosphate Dehydrogenase activity is the amount of enzyme required to convert one µmole of glucose 6-phosphate to 6-phosphogluconate per minute under the following assay conditions:

	Final concentrations
2.8 mL 55 mM Tris-HCl buffer	51.0 mM
containing 3.3 mM $MgCl_2$	3.1 mM
0.1 mL Glucose 6-P, Na salt (100 mM)	3.3 mM
0.1 mL NAD^+ (free acid; 60 mM)	2.0 mM
0.02 mL Enzyme for assay (in buffer)	
Final Volume = 3.02 mL	

3. CONTAMINATING ACTIVITIES (as a percentage of glucose-6-phosphate dehydrogenase activity):

Enzyme Measured	Substrate	Activity, %
Hexokinase	Glucose	< 0.0001
Phosphogluconate dehydrogenase	Gluconate 6-phosphate	< 0.0001
Phosphoglucose Isomerase	Fructose 6-Phosphate	< 0.0001
Phosphoglucomutase	Glucose 1-Phosphate	< 0.0001

All activities were measured at 340 nm in 51.0 mM Tris.HCl buffer (pH 7.8) at 30°C.

4. PHYSICOCHEMICAL PROPERTIES:

Recommended conditions of use are at pH 7.0-8.0 and at temperatures up to 40°C.

5. STORAGE AND USE CONDITIONS/RECOMMENDATIONS:

The enzyme is supplied as an ammonium sulphate suspension and should be stored at 4°C. For use in the measurement of D-fructose or D-glucose, refer to the **D-Fructose/D-Glucose Assay Kit booklet (Megazyme cat. no. K-FRUGL)** for details of required concentrations, aliquots and incubation times. Swirl the vial to ensure that the enzyme is uniformly suspended before removing aliquots.