

## Product Information

### Uridine-5'-diphosphoglucose Dehydrogenase from bovine liver

Catalog Number **U7251**

Storage Temperature  $-20\text{ }^{\circ}\text{C}$

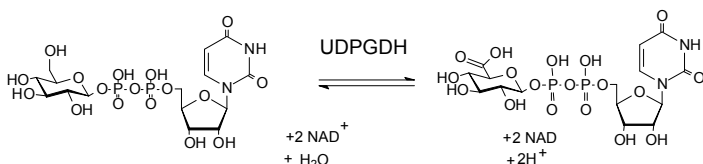
CAS RN 9028-26-6

EC 1.1.1.22

Synonyms: UDP-glucose:NAD<sup>+</sup> 6-oxidoreductase; UDP-glucose 6-dehydrogenase; UDPGDH; uridine diphosphoglucose dehydrogenase

#### Product Description

Uridine-5'-diphosphoglucose Dehydrogenase belongs to the UDP-glucose/GDP-mannose dehydrogenase family. It catalyzes a two-step NAD<sup>+</sup>-dependent oxidation of UDP-glucose to produce UDP-glucuronic acid.<sup>1</sup> UDP-glucuronic acid is a common substrate for the biosynthesis of exopolysaccharides and is the precursor for K30 antigen synthesis.<sup>2</sup> UDP-glucose is responsible for the biosynthesis of cell wall polysaccharides.



UDP-glucose dehydrogenase (UDPGDH) is a homohexameric, NAD<sup>+</sup>-linked enzyme with 52 kDa subunits composed of 468 amino acid residues.<sup>3</sup>

Molecular mass: 305 kDa

Optimal pH: 8.7

Acitvator: Deamino adenine dinucleotide

Inhibitor: UDP-D-xylose

This product is supplied as a lyophilized powder containing 30% potassium phosphate and 20% sodium citrate.

Specific activity:  $\geq 0.3$  unit/mg protein

Unit definition: One unit will oxidize 1.0  $\mu\text{mole}$  of UDP-glucose to UDP-glucuronic acid per minute at pH 8.7 at  $25\text{ }^{\circ}\text{C}$ .

#### Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

#### Preparation Instructions

This product is soluble in water (10 mg/ml), yielding a clear, light yellow solution.

#### Storage/Stability

Store the product at  $-20\text{ }^{\circ}\text{C}$ . At  $-10\text{ }^{\circ}\text{C}$ , a minute loss of activity will occur after several weeks

#### References

1. Drummel-Smith, J., et al., J. Bacteriol., **179**, 3232-3238 (1997).
2. Hung, R.J., et al., J. Biol. Chem., **282**, 17738-17748 (2007).
3. Hempel, J., et al., Protein Sci., **3**, 1074-1080 (1994).
4. [www.expasy.org/cgi-bin/niceprot.pl?P00797](http://www.expasy.org/cgi-bin/niceprot.pl?P00797)

CS,RBG,MAM 10/08-1

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