



XYLOSE DEHYDROGENASE plus MUTAROTASE (Lot 140901a)

Recombinant

E-XYLMUT

11/14

(EC 1.1.1.175) D-xylose 1-dehydrogenase; D-xylose:NAD⁺ 1-oxidoreductase

(EC 5.1.3.3) Aldose 1-epimerase

CAS: 62931-20-8 (XDH); 9031-76-9 (XMR)

PROPERTIES

1. ELECTROPHORETIC PURITY:

Xylose dehydrogenase (XDH):

- Single band on SDS-gel electrophoresis (MW ~ 26,000)
- Single major band on isoelectric focusing (pI ~ 5.3)

Xylose mutarotase (XMR):

- Single band on SDS-gel electrophoresis (MW ~ 38,000)
- Single major band on isoelectric focusing (pI ~ 4.8)

2. ACTIVITY/CONCENTRATION:

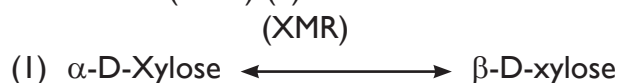
Xylose dehydrogenase: ~ 60 U/mL at pH 7.5 and 25°C

Xylose mutarotase: 2 mg/mL

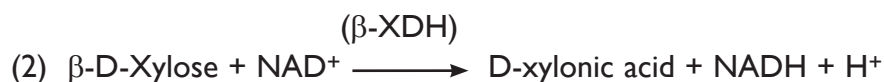
One Unit of xylose dehydrogenase is defined as the amount of enzyme required to produce one μmole of NADH from NAD⁺ per minute at 25°C.

3. SPECIFICITY:

Interconversion of the α- and β-anomeric forms of D-xylose is catalysed by xylose mutarotase (XMR) (1).



The α-D-xylose is oxidised by NAD⁺ to D-xylic acid in the presence of β-xylose dehydrogenase (β-XDH) at pH 7.5 (2).



4. PHYSICOCHEMICAL PROPERTIES:

Recommended conditions of use are at pH 7.5 and 20°C – 40°C.

5. STORAGE AND USE CONDITIONS/RECOMMENDATIONS:

This mixture of enzymes is supplied as a 50% glycerol solution and should be stored at -20°C. For use in the measurement of D-xylose, refer to the D-XYLOSE Assay Kit booklet (Megazyme cat. no. **K-XYLOSE**) for details of required aliquots and incubation times. **Swirl to mix the enzyme suspension immediately prior to use.**