

Pyranose Oxidase

Pyranose Oxidase (PROD) (EC1.1.3.10) is a kind of glucose Oxidase founded in Basidiomycotina. 1,5-Anhydroglucitol (1,5-AG) is new biomarker of glycemic control. Low blood levels of 1,5-AG are associated with hyperglycemia. 1,5-AG levels change more rapidly than HbA1c levels and reflect glycemia over the previous 1-2 week period. The changes of 1, 5 - AG can be detected by reaction system using hexokinase (HK), pyruvate kinase (PK), PROD coupling peroxydase (POD). Reaction is as follow:

D-Glucose + ATP
$$\xrightarrow{\text{HK}}$$
 D-Glucose-6-phosphate + ADP

PEP + ADP $\xrightarrow{\text{PK}}$ Pyruvic acid + ATP

1,5-anlydroglucitol $\xrightarrow{\text{PROD}}$ 1.5- dehydration fructose $+\text{H}_2\text{O}_2$
 $+\text{H}_2\text{O}_2$ H₂O₂+4-AAP+HTIB $\xrightarrow{\text{POD}}$ Quinonimine dye+H₂O

PROD

Latest PROD have been developed by CUSAg. PROD was applied to the 1,5-anlydroglucitol (1,5-AG). Multiple clinical samples have been respectively tested by CUSAg 1,5-AG reagent and high-quality 1,5-AG kit, the results had good correlation between them. This product is qualified for IVD assay development.

PROPERTIES	SPECIFICATION
Appearance	Yellow liquid
Activity	≥1000 U/mL-liquid
Source	Microorganism
Purification method, purity	column chromatography, ≥90%(SDS-PAGE)
Storage	2 - 8℃
Application	1,5-AG and other possible application
Catalog Number	CSB-DE009

1.Stability

PROD was kept for 7, 14, 20, 28 days under -20°C, 2-8°C and 37°C to be heat treated. The activity of PROD heat treated has no significant change. The results showed that the PROD is very stable to heat.

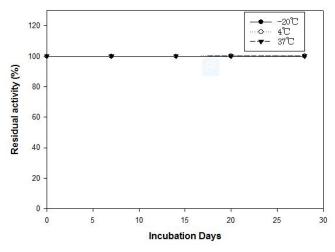


Fig.1 Stability of the PROD



2. Clinical analysis

An amount of samples from donors (n=30) were respectively detected by the high-quality 1,5-AG kit and CUSAg 1,5-AG reagent. The results had good correlation between CUSAg 1,5-AG assays and kit.

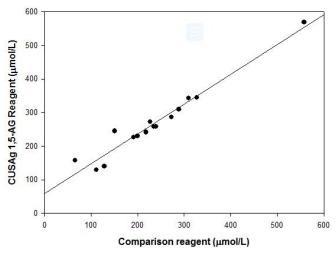


Fig.2 Method comparison between CUSAg 1,5-AG reagent and commercial diagnostic kit