

S-Monovette® GlucoEXACT

Information for the Laboratory



Reliable diagnosis of diabetes and gestational diabetes

- Conforms to DDG*/DGGG** guidelines on gestational diabetes
- Ultra-fast glycolysis inhibition with fluid preparation
- Optimal glucose stabilisation up to 96 h
- Protects against misdiagnosis
- Citrate/Fluoride is recommended for diabetes screening

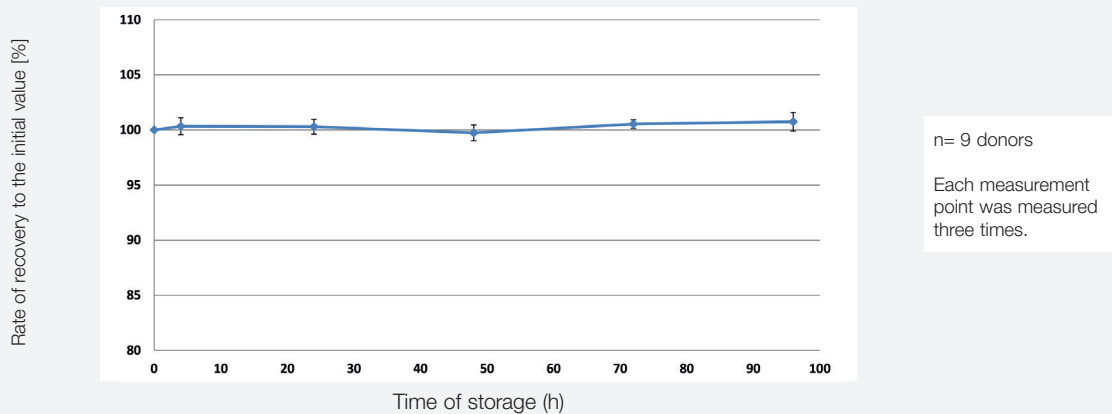
Precision through Stability

The pre-analytic conditions applying to glucose determination in venous blood are of great significance for increasing glycolysis. In order to inhibit glycolysis reliably and immediately, the guidelines on gestational diabetes issued by the professional societies, the DDG* and the DGGG**, recommend adding a glycolysis inhibitor consisting of a mixture of fluoride and citrate to the samples.^{1,2} The DDG now also recommends carrying out diabetes screening with a blood collection tube prepared with citrate/fluoride.^{3,4} The American Diabetes Association also recommends immediate glycolysis inhibition.⁵

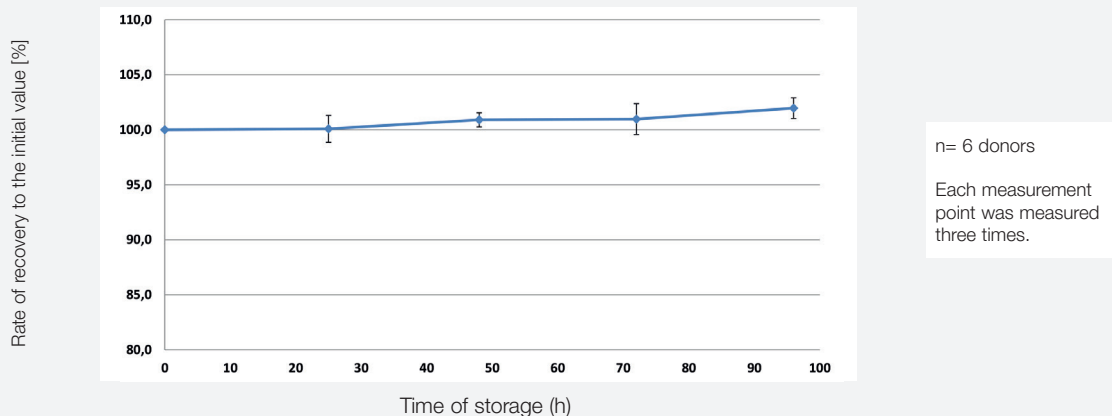
The S-Monovette® GlucoEXACT exceeds the requirements of the DDG*/DGGG guidelines by a factor of two (2 x 48 h) and immediately stabilises the glucose concentration for up to 96 h at room temperature.**

The Effective glycolysis inhibition in venous whole blood using the S-Monovette® GlucoEXACT was evaluated in an independent high-throughput laboratory up to 48 h⁶ and, in a recent validation, for up to 96 h at room temperature.⁷

Glucose stability in the S-Monovette® GlucoEXACT (n=9) at 20°C applying the hexokinase method



Glucose stability in the S-Monovette® GlucoEXACT (n=6) at 20°C applying the glucose oxidase (GOD-PAP) method



Applications

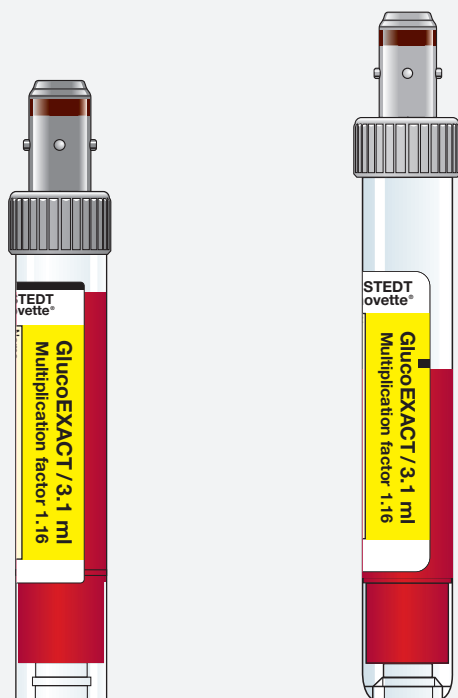
The S-Monovette® GlucoEXACT is suitable for determining the **glucose concentration in plasma** using the hexokinase and glucose-oxidase method (GOD-PAP). Other methods and analyses require individual approvals.

Preparation

The mixture of citrate and fluoride ensures immediate and long-lasting glycolysis inhibition and conforms to the guidelines of the DDG*/DGGG**. The pH-dependent enzymes of glycolysis are inhibited due to citrate acidification (enzyme: hexokinase, phosphofruktokinase). Fluoride as a glycolysis inhibitor ensures long-lasting inhibition of glucose degradation (enzyme: enolase).

The fluid preparation ensures effective glycolysis inhibition in whole blood due to optimal solubility. The stable glucose level can be determined in the plasma after centrifugation.

S-Monovette® GlucoEXACT



05.1074.001

04.1945.001

The S-Monovette® GlucoEXACT can be **reliably stabilised up to an impressive 96 h** at room temperature. The citrate fluoride solution in the S-Monovette® mixes directly with the blood during the blood collection process. The mixing process is usually completed by inverting the tube three times. Precise filling of the S-Monovette® GlucoEXACT guarantees reliable sample quality and accurate pre-analytics. In order to obtain an accurate result, the S-Monovette® GlucoEXACT must be filled precisely.

Plasma glucose level and multiplication factor:

The plasma glucose value (raw glucose value) determined must be **multiplied by a factor of 1.16** due to blood thinning caused by the fluid preparation. The multiplication factor is defined using the volume ratio of blood volume to preparation volume.

Centrifugation

Standard preparation	2000 x g	2500 x g	3000 x g	3500 x g	4000 x g
S-Monovette® GlucoEXACT, (Citrate/Fluoride)	9 min	8 min	7 min	6 min	5 min

For further information, visit:

www.sarstedt.com/en/service/centrifugation/

Ordering Information

Order number	Description	Length x diameter	Packaging
05.1074.001	S-Monovette® GlucoEXACT 3.1 ml	66 x 11 mm	50/500
04.1945.001	S-Monovette® GlucoEXACT 3.1 ml	75 x 13 mm	50/500

* Deutsche Diabetes Gesellschaft (German Diabetes Society)

** Deutsche Gesellschaft für Gynäkologie und Geburtshilfe (German Society for Gynecology and Obstetrics)

¹ Kleinwechter et al Gestationsdiabetes mellitus (GDM). Evidenzbasierte Leitlinie zur Diagnostik - Therapie und Nachsorge, DDG 08.2011

² S3-Leitlinie Gestationsdiabetes mellitus (GDM), Diagnostik, Therapie und Nachsorge, 2. Auflage, DDG, DGGG-AGG 2018

³ Nauck et al Definition, Klassifikation und Diagnostik des Diabetes mellitus Diabetologie 2017; 12 (Suppl 2):S94-S100 (DDG Praxisempfehlung)

⁴ Petersmann et al Definition, classification and diagnostics of diabetes mellitus JLabMed 2018 43(3): 73-79

⁵ Sacks et al Guidelines and Recommendations for Laboratory Analysis in the Diagnosis and Management of Diabetes Mellitus, Diabetes Care 34, e61-e99 06.2011

⁶ Yagmur et al Effective inhibition of glycolysis in venous whole blood and plasma samples JLabMed 2012 36:169-177

⁷ Will et al Whitepaper Sarstedt S-Monovette® GlucoEXACT A blood collection device for stabilizing glucose levels for 96 hours 2016

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