

Pefachrome®TG

Application: Pefachrome®TG is a chromogenic peptide substrate that is specifically cleaved by thrombin but at a slow rate. For the continuous registration of thrombin formation in plasma, such a selective thrombin substrate is required, that shows moderate binding affinities (high K_m) and a low turnover rate (k_{cat}).

Formula: H-β-Ala-Gly-Arg-pNA·2AcOH **MW:** 542.6

Principle: H-β-Ala-Gly-Arg-pNA + E ==> H-β-Ala-Gly-Arg-OH + pNA + E
E = Enzyme (Thrombin)

K_m 1.95 mM **k_{cat} :** 1.91 s⁻¹

Storage: May be used by the expiry date given on the label when stored unopened, protected from moisture, in the dark, 2-8°C. Avoid contamination of the reagents by micro-organisms. Shipment of product does not require cooling during the time of transportation.

Stability after reconstitution:

+ 2 to + 8°C	1 week
-20°C	1 month

Material required but not provided:

Reference material, buffer, Pefabloc®FG, Innovin® or DAPTIN®

Buffer: 50 mM Tris-HCl pH 7.4, 100 mM NaCl, 0.5% HSA

Suggested protocols for the determination of thrombin generation in human plasma:

Macro assay:

0.600 ml platelet-free human plasma
0.075 ml buffer
0.075 ml Pefabloc®FG 36 mg/ml (Pentapharm Ltd.)
0.090 ml Pefachrome®TG (5 mM)
=> incubate at 37 °C
60 µl Innovin® in 250 mM CaCl₂ or 60 µl DAPTIN® in 250 mM CaCl₂
=> Measure release of pNA at 405 nm, 15 minutes

Micro assay:

0.200 ml platelet-free human plasma
0.050 ml Pefabloc®FG 18 mg/ml in buffer
0.030 ml Pefachrome®TG (5 mM)
=> incubate at 37 °C
20 µl Innovin® in 250 mM CaCl₂ or 20 µl DAPTIN® in 250 mM CaCl₂
=> Measure release of pNA at 405 nm, 15 minutes

References: Prasa D, Svendsen L, Stürzebecher J. The ability of thrombin inhibitors to reduce the thrombin activity generated in plasma on extrinsic and intrinsic activation. Thromb and Haemost 1997; 77: 498-503.

Prasa D, Svendsen L, Stürzebecher J. Inhibition of Thrombin Generation in Plasma by Inhibitors of Factor Xa. Thromb and Haemost 1997; 78: 1215-1220.

Package size: Vial containing 10 µmol
Bulk [g]

Code: 081-40
081-17

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[Data sheet / 5308]

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