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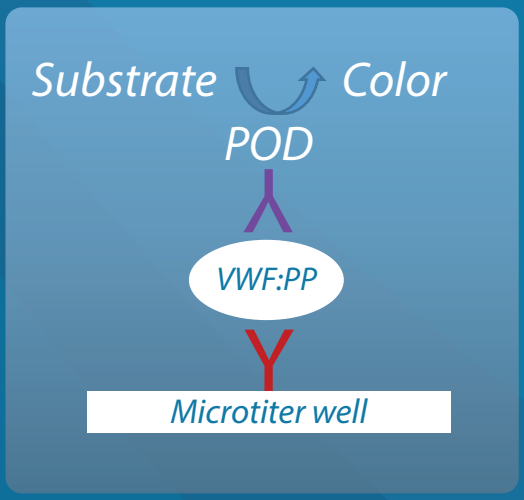
Von Willebrand Factor Propeptide
VWF:PP
Colorimetric ELISA



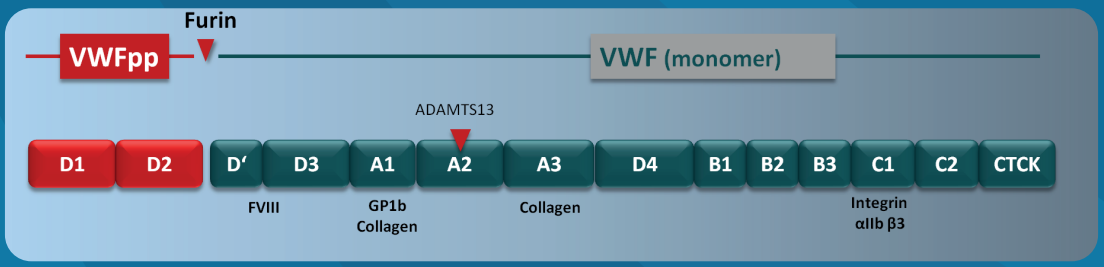
Product

The VWF:PP double monoclonal ELISA allows a rapid determination of VWF with standard colorimetric ELISA technique:

- *Microtiter strips (precoated with monoclonal antibody against VWF:PP, ready to use)*
- *Control and calibrator included in the kit*
- *Minimum handling steps*
- *450 nm measuring wavelengths*
- *Results in <90 min*
- *Excellent stability of all components*
- *Excellent precision*
- *Calibrated against the international standard*
- *For 96 tests*

Quick and simple

Microtiter strip with capture antibody
50 µl sample
+ 50 µl antibody-POD conjugate
60 min, 37 °C
4x washing
+ 100 µl substrate (TMB)
15 min
+ 100 µl stop solution
OD reading (450/620 nm)



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Background

Von Willebrand Factor (VWF) is large multimeric plasma protein with important functions in primary hemostasis. It is also a carrier protein for FVIII. VWF is synthesized as a precursor. After several posttranslational modifications and cleavage of the signal peptide in the trans-Golgi-system, the protease furin cleaves the propeptide of VWF (VWF:PP) that remains associated to VWF in Weibel-Palade bodies in endothelial cells or in α-granules of megakaryocytes. Stimulation of these cells releases the complex into plasma, where both components dissociate and get metabolized with a different half live:

- VWF:PP: 2 hours
- VWF:AG: 12 hours

Diagnostic Applications in VWD

The determination of VWF:PP is an important step for the characterization of VWF deficiency (VWD). The ratio of VWF:PP and VWF:AG indicates the clearance of VWF. An elevated ratio is typically found in VWD characterized by an enhanced clearance of VWF, for example in the Vizenza type of VWD. The VWF:PP / VWF:Ag ratio is very useful in the differentiation of certain type of VWD type 1c patients from VWD type 3, but also in certain cases of VWD type 2. A better understanding of the phenotype of VWD is more than just an academic question. It can be the important information for therapeutic decisions, specifically if concentrates are really required, or if the less expensive drug desmopressin (DDAVP) may be sufficient.

Acquired VWD

VWF:PP is also useful in acquired VWD. This may occur in patients on ECMO (extracorporeal membrane oxygenation), but also in cardiac disorders (e.g. aortic stenosis, congenital cardiac defects, mitral valve prolapse), in hematoproliferative diseases, monoclonal gammopathy, myeloma, other lymphoproliferative disorders, in patients with myeloproliferative disorders such as essential thrombocythemia and, less frequently, polycythemia vera and chronic granulocytic leukemia, immunologic diseases, (e.g. SLE); thyroid disorders, diabetes, nephropathies, DIC, sepsis and other diseases. In patients with beginning diabetes, VWF:PP rises earlier than HbA1c. Therefore this early indicator of diabetes may be useful for early therapy.

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