

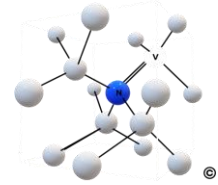
WELFA

wainvam

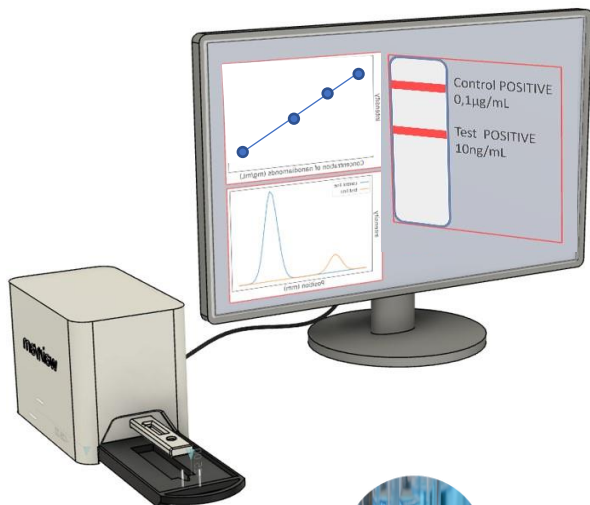
WELFA (*WAINVAM-E Lateral Flow Assay*) is a new generation of ultra-sensitive lateral flow immunoassays using nano-diamonds with NV centers. These functionalized nano-diamonds allow the recognition of targets of interest and are used as fluorescent probes.

NV centers of diamonds

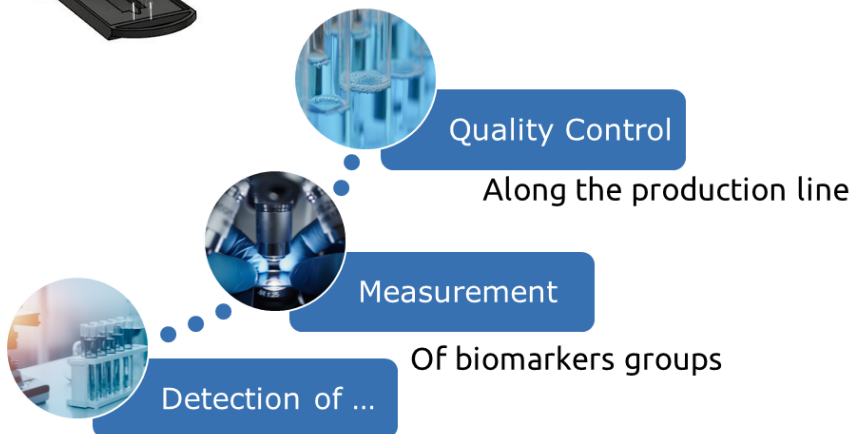
A diamond is an assembly of carbon atoms. An NV center is a defect voluntarily incorporated during the manufacture of diamond: a carbon atom is replaced by a nitrogen atom (Nitrogen, N) and one of its neighbors is left vacant (Vacancy, V).



Crystal structure of an NV center



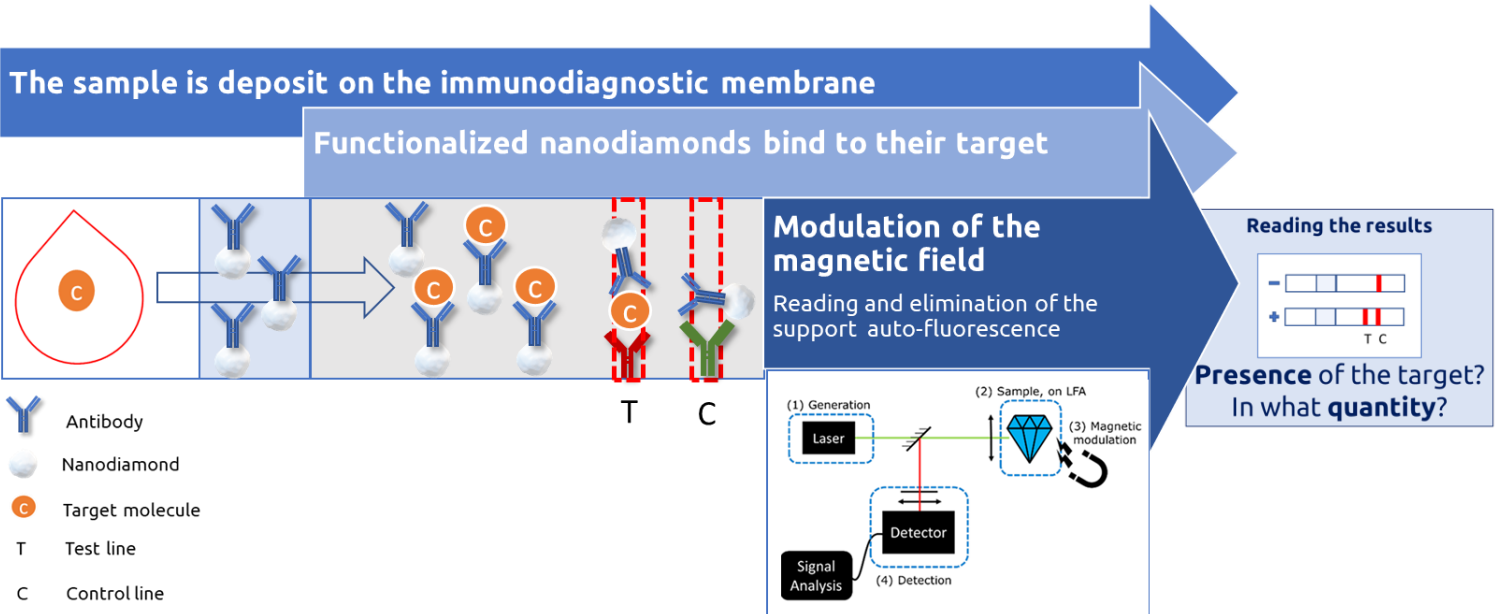
Fields and applications



- Markers of inflammation, cancer, infection ...
- Pathogens
- Toxins
- Allergens
- Pesticides
- Illegal ingredients ...



How does WELFA work?



Technological potential and advantages

WELFA like all the LFA (*Lateral Flow Assay*) tests is:

- ✓ **Accessible:** simple procedure and simplified reading of the results.
- ✓ **Economical:** allows testing of small quantities of biological matrices
- ✓ **Fast:** results in a few minutes

WELFA offers other advantages. When irradiated by a green laser, nano-diamonds emit a red fluorescence which has remarkable optical properties. Thanks to nano-diamonds, **WELFA** is also :

- ✓ **Ultra-sensitive:** can detect very low levels of biomarkers.
- ✓ **Photostable:** no bleaching or flickering
- ✓ **Quantitative:** detection of the presence but also of the quantity of target molecules, if necessary.
- ✓ **Adaptable:** to a multiplex platform to detect multiple analytes.
- ✓ **Specific:** the fluorescent background of the support is eliminated.

Customized offer

To customize your test kits, we determine together your needs:

- ✓ **Analytes** to be detected and their quantification
- ✓ **Matrices** to be analyzed (blood, urine, saliva, environments ...)
- ✓ Expected **measurements and performances**