QF-Pro®

hawkbiosystems.com

QF-Pro®: A New Spatial Biology Standard

Quantifying ***F***unctions in ***P***roteins (***QF-Pro®***) is a state-of-the-art bio-imaging assay offered by *HAWK Biosystems*. *QF-Pro®* is **the technology that spatially quantifies functional proteomic events, such as protein-protein interactions and protein post-translational modifications**, directly in fixed samples (such as tissue, cells, PBMCs etc), at an unrivalled resolution. Moreover, *QF-Pro®* is FRET based – however, unlike other FRET technologies, our patented amplification step allows this to work within FFPE tissue samples in a reliable manner – a feat that was until now unachievable.

Main Features:

- **Quantifies** protein functions mechanistically within fixed samples (tissue, cells, PBMCs etc).
- **Spatially maps** these events across the tumour microenvironment.
- Unrivalled dynamic range which leads to **unbiased clinical cut-off values.**
- *Violet 3.0* a **bespoke imaging system** for *QF-Pro®* read-outs.
- **Easy to use reagent kits** containing every needed to perform *QF-Pro®* labelling.
- The only **clinically validated** spatial biology assay in the immuno-oncology domain.

HAWK Biosystems

Unparalleled Combination of Sensitivity, Specificity and High Dynamic Range

Owing to the spectroscopic nature of QF-Pro®, our assays run with an unrivalled specificity and sensitivity compared to other spatial biology technologies, **quantifying information at a sub-pixel resolution.** *QF-Pro®* measures sub 10nm distances directly within fixed samples to determine the functional states of proteins. QF-Pro® assay has a high dynamic range due to its spectroscopic nature. Unlike competing technologies, we operate with an unrivalled specificity and are immune from false positive results whilst working down to the specificity of a single cell. Being a two-site labelling assay which operates at 1-10nm, we are immune from the issues of non-specific antibody labelling which affect IHC/IF approaches.

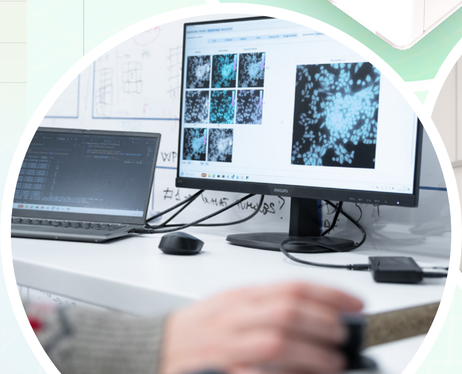
	IHC/IF	Proximity Ligation Assay	QF-Pro®
Quantifies protein function	+	++	+++
Sensitivity	-	+	+++
Specificity	-	+	+++
Clinical Value*	+	-	+++

* For predicting response to anti-PD-1/PD-L1 therapies in NSCLC.

Compatible with current laboratory workflows

In order to run *QF-Pro®* assays, we have designed a streamlined microscope platform, *Violet 3.0*, which has made FRET/FLIM imaging more accessible than ever before. This is complemented with our *QF-Pro®* imaging software and reagent kits, containing everything needed to run *QF-Pro®* experiments in your lab. Operating as a modified immunofluorescence assay, *QF-Pro®* is completely compatible with current research and clinical workflows and can be integrated easily into any laboratory setting with ease.







A Selection of Our Currently Validated Assays

As a versatile platform technology, *QF-Pro®* can be tailored to any functional protein target of interest. We are constantly working to increase our off-the-shelf repertoire of biomarkers, of which you can find some examples below:

Protein-Protein Interaction States:

- HER2/HER3
- HER2/EGFR
- HER3/EGFR
- PKB/PDK1
- E-cadherin/ β-catenin

Immune Checkpoints Interaction States:

- PD-1/PD-L1
- CTLA-4/CD80
- TIGIT/CD155
- LAG3/MHC-II
- TIM-3/Gal9

Post-translational modifications:

- PKB phosphorylation (pT308)
- STAT3 phosphorylation (pS727 or pY705)
- PD-1 phosphorylation state (pY248)

Why Hawk Biosystems?

HAWK sets a new spatial biology standard for precise quantitative analysis of protein functions in tissue. With an extraordinary dynamic range, HAWK's *QF-Pro®* technology stands as the only solution capable of providing reliable, reproducible, and unbiased quantitative cut-off values related to protein functional states in tissues.