Because you demand fast, non-stop, highly sensitive hit screening.

Tackle all your molecular interaction screening projects with Dianthus

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Dianthus removes the complexity of binding interaction measurements for drug discovery screening

Find hits for any target type in any buffer or bioliquid, measure a wide range of binding affinities — picomolar to millimolar — all by consuming the smallest amount of your target and library compounds. There's no fluidics which means no regular maintenance and no downtime. With Dianthus, get the fastest time to meaningful results with no immobilization required, because you demand it.

Screen for hits and optimize leads based on affinity

Hit identification
Finding true hits faster is the most important step in making your drug discovery workflow efficient. With Dianthus, you'll find hits quickly and move on to hit validation confidently, whether it's fragment-based or small molecule single-dose screening.

Hit validation
Spend less time sorting through strong and weak binders. Dianthus generates easy-to-interpret affinity ranking tables and histograms to help you quickly decide on the right candidates and start lead optimization sooner.

Lead optimization
Once validation is complete, it's time to improve target specificity, selectivity, and potency. Use Dianthus to verify that binding affinities remain strong. This, combined with your ADME, toxicity, and PK/PD results, ensures you're developing the best drug candidates.

Tackle many projects, not just a few

Explore every target, even the most challenging ones
There's no end to the projects you can do. Study targets and ligands of any size or mass — from ions to multimeric proteins — and type — proteins, nucleic acids, saccharides, and more.

Measure affinities with the highest sensitivity
Whether strong or weak, Dianthus detects a wide range of binding affinities — picomolar to millimolar — so it's all you need to find your hits.

Consume small amounts of target and compounds
Every little bit counts. Saving on costly sample and library compounds means you can do more screening or use them in other projects.

Evaluate any sample type in any buffer
Dianthus isn't picky. Feel free to prep your target in the buffer that ensures its stability and integrity. Even use lysates or bioliquids without diluting them.

Characterize in solution, no immobilization required
Analyzing interactions in close-to-native conditions is ideal. Dianthus characterizes in solution, so interfering with your target's binding site or spending on expensive immobilizing chemistries isn't an issue.

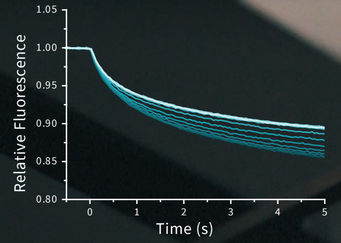
Get meaningful results faster at any throughput
Dianthus swiftly analyzes 384 data points in 30 minutes and has flexible throughput. Choose to run one sample or as many as you want.

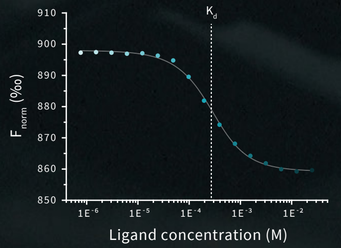
Forget about regular maintenance
Planning for downtime due to regular maintenance delays your projects. Dianthus is ready whenever you need it — non-stop, 24/7. There's no fluidics, so feel free to turn it on or off whenever you want.

Integrate into any automated solution
Harmony in your workflow is so important. Dianthus' 384-well microplate format is compatible with a variety of automation solutions — simply integrate it into your current workflow.

Use proven technology that's been around for over 10 years

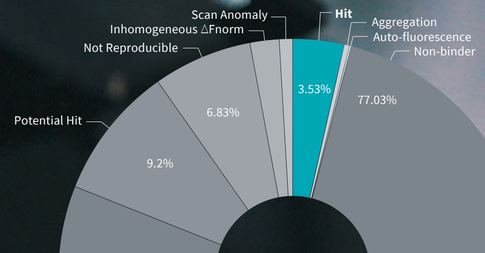
Quantifying molecular interactions — measuring how tight or weak a ligand binds to its target — via Temperature Related Intensity Change (TRIC) isn't new. It's done by labeling your target molecule with a fluorescent dye and mixing it with your ligand. Then, a very precise and brief laser-induced temperature change is applied, causing a variation in fluorescence intensity which is amplified if your ligand binds to your target. This change in fluorescence is measured and plotted against your ligand concentration to obtain the dissociation constant or K_d.





Decide which hits are worth moving forward with sooner

Generating results is great, but getting automated, actionable insights from your results is even better. Dianthus DI.Screening Analysis software gives you screening summaries as well as easy-to-interpret ranking tables and histograms. Quickly compare K_ds and decide which candidates are worth moving forward with sooner rather than later.



Do more than screening

Little did you know that Dianthus is capable of doing more than just hit ID and validation. Because it handles a wide range of targets and has flexible throughput, it's so easy to choose Dianthus as your primary tool to characterize molecular interactions for a variety of applications.

Characterize binding events to understand biological processes and structure-function relationships

Analyze how multimeric proteins, GPCRs or aptamers interact with their ligands

Support and confirm X-ray crystallography and Cryo-EM findings

Perform competition assays in the presence of inhibitors

Choose the right system for you

	Dianthus NT.23	Dianthus NT.23Pico	Dianthus NT.23PicoDuo
Detected molecule range	Molecular weight: 10^1-10^7 Daltons Size: 0.1 nm – 1 µm		
Minimum sample volume	20 µL		
Affinity range	nM to mM	pM to mM	
Run time for 384 data points	60 min		30 min
Format	384-well plate (barcoded and sealable)		
Fluorescence channels	1 (Red)	1 (Pico red)	2 (Pico red)
Temperature control	20-25°C		
Dimensions	60cm W x 40cm H x 55cm D		

	Dianthus NT.23	Dianthus NT.23Pico	Dianthus NT.23PicoDuo
Automation	Option to integrate with liquid handlers and robotics		
Walk-away time (using 50-plate feeder)	50 hrs		25 hrs
Compounds tested in 24 h single-dose in duplicate	~4150		~8300
K_ds measured in 24 h 12-pt dilution series	~750		~1500

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