

Kinase Inhibitor Discovery & Profiling

Service without Compromise



The Best Value Services for Kinase Inhibitor Discovery and Profiling



We provide services built around our proprietary DIANA platform. This patented technology allows you to precisely measure inhibition potency for unknown compounds across a wide range of enzymes ("inhibitor profiling") or, alternatively, enables the rapid screening of extensive compound libraries against a single defined target ("high-throughput screening").



Get more for you price

Quantitative potency data for the price of relative potency data



Flexible customization

Assemble your own kinase profiling panel for comparable price as our focused panels



Rapid turnaround time

7 business days for standard and 14 business days for complex services



Quantitative data

Obtain true binding constants (K_d) from each measurement

Compound selection

Pick your compounds and decide whether you want to profile them against one of the predefined kinase panels or if you prefer our custom selection service.

Compound shipment

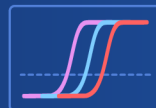
Send us your compounds and we will analyze them right away. If you need any support, we will be in close contact with you.

Compound profiling

Thanks to proprietary DIANA Technology the compound profiling will yield quantitative inhibition potency data in form of binding constants (K_d).

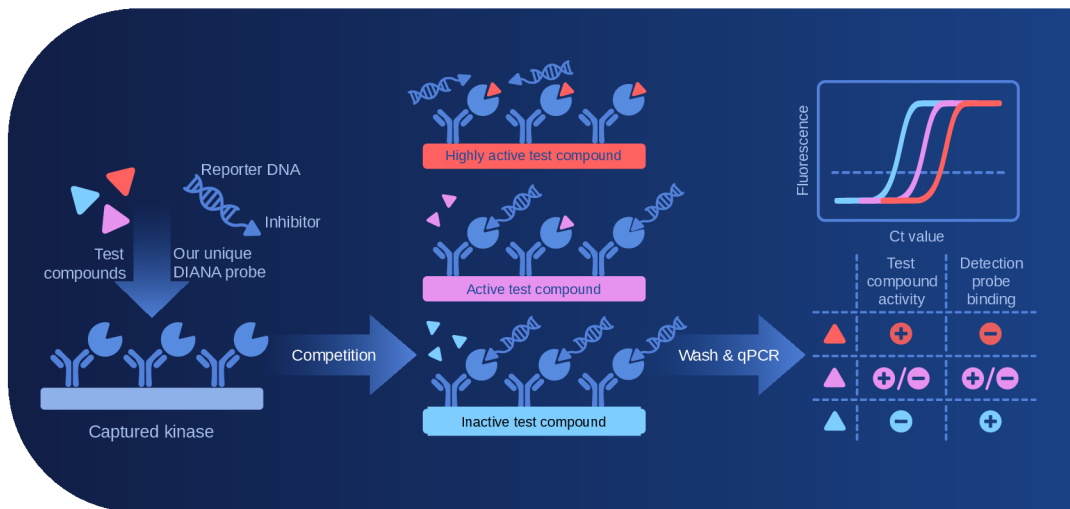
Receive results

Turnaround time for your results is 7-14 business days. We are happy to help you interpret the data whenever needed.



DIANA Technology: How Does It Work?

DIANA is a solid-phase competitive binding assay that uniquely combines small molecule-based DIANA probes with the strengths of ELISA and qPCR, delivering robust quantitative potency data with an exceptionally broad dynamic range. This allows researchers to obtain precise affinity binding constants (K_d) from the start of their projects at a cost comparable to conventional methods that commonly provide relative inhibition potency data.



01 COMPETITIVE BINDING ASSAY

DIANA assay measures potency of tested compound as function of its competition with DIANA probe. The assay delivers true binding constants (K_d) of tested compound.

02 qPCR READOUT

The amount of displaced DIANA probe is quantitatively determined by qPCR. Its readout ensures high dynamic range and enables calculation of K_d from a single measurement.

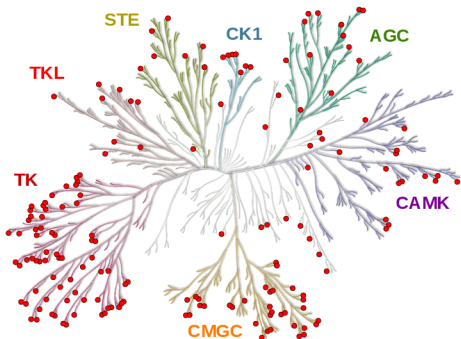
03 SUPERIOR TO KINOMESCAN™

DIANA uses recombinant kinases with posttranslational modifications instead of phage constructs used by KINOMESCAN™. Both methods use solid phase assay setup with qPCR readout and thus yield highly similar results.

Inhibitor Profiling: DB Kinase Panel™

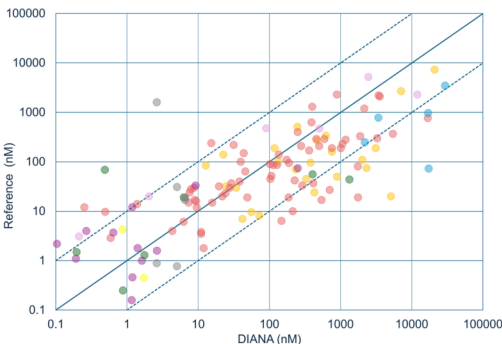
DB Kinase Panel™ is our flagship profiling package, covering over 170 kinases across the entire human kinome. Powered by proprietary DIANA technology, each run delivers true binding constants (Kd) for every kinase making DB Kinase Panel™ the only tool on the market for quantitative potency determination at full kinome scale. Finally, our data aligns seamlessly with reference KINOMEScan™ technology.

Kinome coverage of DIANA Kinase panel
(each red dot indicates one kinase assay)



*Illustration reproduced courtesy of Cell Signaling Technology, Inc. (www.cellsignal.com)

Comparison of staurosporine inhibition
profile determined by DIANA with a reference



Inhibitor Profiling: Service information

	No. kinases	Cpds	Price (EUR)	Turnaround time [#]	Result
DIANA Kinase Panel	+170	1	2500	14 business days	Kd
Custom Selection	1	1	25*	7 business days	Kd

*Minimal Order Quantity for Custom Selection service is 500 EUR

[#]Counts from the day compounds are delivered to our testing facility. For complex orders the turnaround time can be extended to 14 business days.

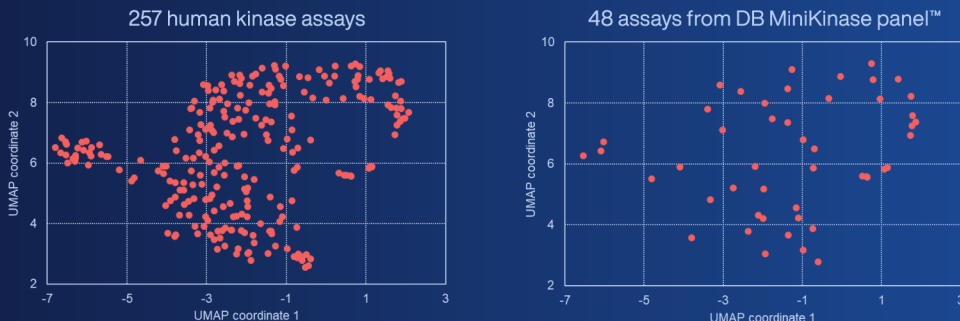
Download current list of
our kinase assays here:



Inhibitor Profiling: DB MiniKinase Panel™

DB MiniKinase Panel™ is a curated set of 48 kinase assays that was assembled, using carefully designed optimization algorithm, as a most representative set of human protein kinases from the perspective of their inhibition profiles. Using publicly available resources, we collected the inhibition potencies of 72 kinase inhibitors against a set of 257 human kinases, thus creating a unique inhibition “fingerprint” for each kinase.

2-D representation of the kinase inhibition “fingerprint” space using UMAP algorithm



Kd values for the interactions of 257 human kinases with 72 kinase inhibitors were retrieved from publicly available resources. Interactions where no Kd value was measured were assigned a Kd value of 10 μ M. The Kd values were then converted to their decadic logarithms and the distance d_{ij} was calculated for each pair of kinases i and j as the Euclidean distance between the respective \log_{10} Kd value vectors. The distances d_{ij} were subsequently normalized to the range $<0.0, 1.0>$ by dividing each distance by the maximum of all distances found and converted to a similarity s_{ij} by the transformation $s_{ij} = 1.0 - \text{normalized } d_{ij}$. A ranking of the kinases was finally generated by subjecting the similarity matrix S with elements s_{ij} to a naive facility location selection algorithm. The distances d_{ij} were also used for the preparation of low (2)-dimensional representations of the kinase space using the UMAP algorithm (see graphs below).

Inhibitor Profiling: Service information

	No. kinases	Cpds	Total price (EUR)	Price per kinase (EUR)	Turnaround time [#]	Result
DB MiniKinase Panel™	48	1	960	20	7 business days	Kd
DB MiniKinase Panel™	48	2	1440	15*	7 business days	Kd

*Price is applicable for all orders which profile more than 2 compounds.

[#]Counts from the day compounds are delivered to our testing facility. For complex orders the turnaround time can be extended to 14 business days.

Inhibitor Profiling: DB Focused Panels™

We are continuously expanding the portfolio of assays in our kinase panel. We started with a set of assays that together provide a representative coverage of the entire human kinome. Currently, we are focusing on completing smaller, coherent groups of assays that can function as focused subpanels of our flagship product, the DB Kinase Panel™, gathered under the DB Focused Panels™ brand.

Tyrosine Kinase (TK) Panel

- Covers approximately 80% of all human tyrosine kinases (70 out of 90 kinases)

CMGC Kinase Panel

- Covers more than 80% of all human CMGC kinases (52 out of 63 kinases)

Cyclin Dependent Kinases (CDKs) Panel

- Contains 24 CDK/cyclin pairs covering all CDKs (1-20) some of them with several different cyclins

Casein kinase 1 (CK1) Panel

- Containing 7 kinases (CK1 alpha, CK1 alpha L, CK1 gamma 1/2/3, CK1 delta, and CK1 epsilon)

Inhibitor Profiling: Service information

	No. kinases	Cpds	Total price (EUR)	Price per kinase (EUR)	Turnaround time [#]	Result
TK Panel	70	1	1400	20	7 business days	Kd
CMGC Panel	52	1	1100	20	7 business days	Kd
CDK Panel	24	1	480	20	7 business days	Kd
CK1 Panel	7	1	140*	20	7 business days	Kd

*Minimal Order Quantity for Custom Selection service is 500 EUR.

[#]Counts from the day compounds are delivered to our testing facility. For complex orders the turnaround time can be extended to 14 business days.

Inhibitor Discovery: In-House Libraries

Fragment-based libraries of small, diverse molecules are vital for high-throughput screening and lead discovery. Our HTS services give you access not only to these libraries but also to additional focused libraries used for targeted screening. Select any kinase assay from our DB Kinase Panel™ or request a custom assay tailored to your needs. Timelines and pricing are flexible based on project scope.

01 FRAGMENT-BASED LIBRARIES

Fragments are small molecules, about 10–20 heavy atoms vs. 30–50 in typical drugs, used as building blocks in drug discovery. In fragment-based approaches, weakly binding fragments are first identified, then grown or linked into potent drug candidates.

02 FOCUSED LIBRARIES

Contains molecules designed with a specific biological target or mechanism in mind. These libraries are biased toward a particular target or therapeutic area, increasing the chance of finding active compounds against that target.

Lead-like diversity set

- + Containing appx. **10,000** compounds (over **6,000** scaffolds)
- + Compounds with low MW (MW<400 Da) and logP (0-3)
- + No PAINS, only medchem friendly compounds

Drug-like diversity set

- + Containing appx. **120,000** compounds (over **20,000** scaffolds)
- + Compounds with mid MW (MW<500 Da) and logP (1-5)
- + No PAINS, only medchem friendly compounds

Kinase inhibitor library

- + Containing **1930** compounds that are known kinase inhibitors
- + Structurally diverse, medicinally active, and cell permeable
- + Most are ATP competitive

FDA-approved drug library

- + Containing **2823** compounds that already approved drugs
- + Structurally diverse, medicinally active, and cell permeable
- + Bioactivity and safety confirmed by clinical trials



DIANA
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DIANA Biotechnologies is a Czech biotech company that advances research and development. Powered by a team of top scientists in molecular biology, chemistry, pharmacology, and automation, we provide R&D services and products for academic labs, biotech companies, and pharmaceutical partners. Our offerings include the development of monoclonal antibodies, engineered PCR enzymes and drug discovery services.

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