

# DIANA Carbonic Anhydrase Panel

## Inhibitor Profiling Service

### Complete Coverage

Our CA panel consists of all **11 active human carbonic anhydrase isoforms** (CA1, CA2, CA4, CA5A, CA5B, CA6, CA7, CA9, CA12, CA13, and CA14).

### Quantitative Results

**Determination of quantitative potency data ( $K_D$ ) from each measurement**, thanks to the proprietary DIANA technology.

### Affordable Excellence

Our service offers **fast turnaround time** and offers **fully customizable orders** (e.g., number of tested CAs). Finally, the pricing makes our top-tier solution **accessible to everyone**.



## First Human Carbonic Anhydrase Panel for Inhibitor Profiling on the Market



### Human CAs are validated medicinal targets



CAs play a **crucial role** in many physiological processes.



Several **FDA approved** drugs inhibiting CAs on the market.



CA9 and CA12 investigated as promising **anti-cancer** targets.

Desired Effect	Targets
Diuretics (anti-oedema)	CA2 and others
Anti-glaucoma	CA2 (topical)
Anti-cancer	CA9, CA12
Side Effects	Off-targets
Depression, fatigue	Multiple
Weight loss (undesired), Anti-obesity (desired)	CA5A, CA5B and others

Primary sulfonamide-based CA inhibitors often bind indiscriminately to several human CA isoforms. Such off-target inhibition is a common cause of side effects and can slow down the progress of innovative therapies.

**With our CA profiling service, you gain the clarity needed to design safer and more selective compounds.**

### Assay list:

Isoform	Cellular localization
CA1	cytosolic
CA2	cytosolic
CA4	GPI-anchored
CA5A	mitochondrial
CA5B	mitochondrial
CA6	secreted
CA7	cytosolic
CA9	transmembrane
CA12	transmembrane
CA13	cytosolic
CA14	transmembrane

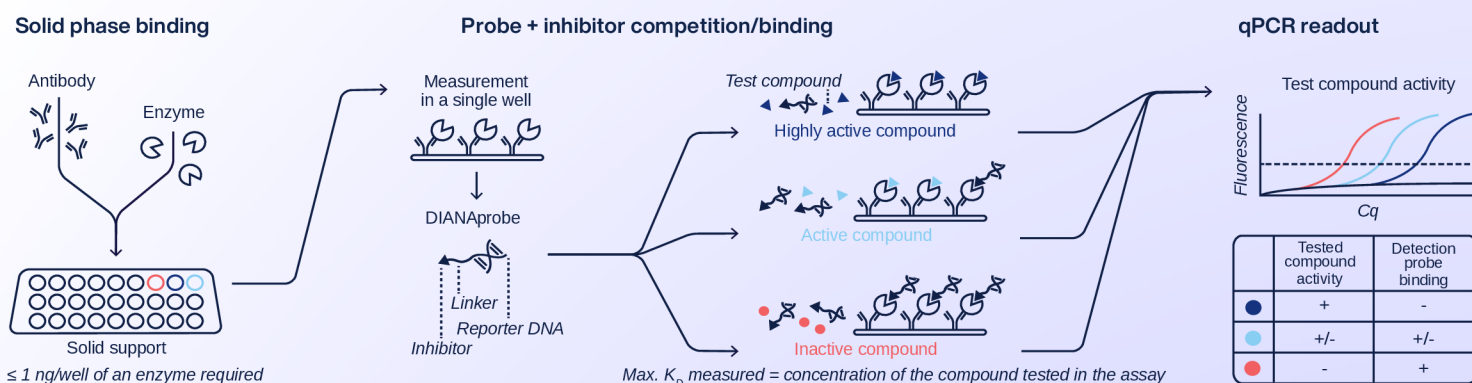
### Pricing information

	Price	Delivery time	Result
DIANA CA Panel	500 EUR for 1 cpd*	7 business days <sup>#</sup>	$K_D$

\*Fully customizable based on customer needs, with tailored quotes available.

<sup>#</sup>Turnaround time starts from the day compounds are received at our facility. For complex orders the turnaround time can be extended to 14 business days.

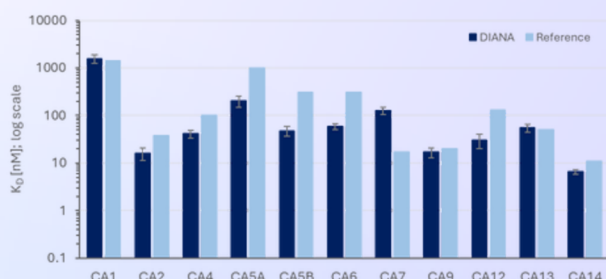
# Schematic pipeline of DIANA technology



## $K_D$ values determined by DIANA are consistent with reference

### Acetazolamide

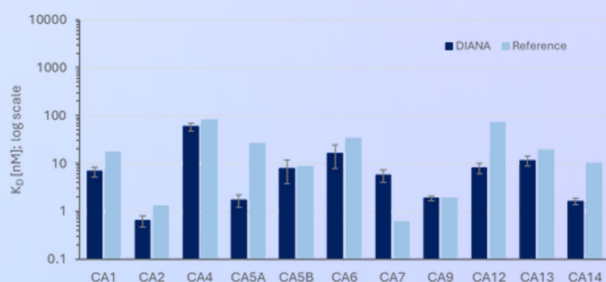
- FDA approved for edema treatment
- Well-studied potent pan-specific inhibitor of CAs



Reference data source: Dudutiene V., et al. *J. Med. Chem.* (2014)

### Ethoxzolamide

- FDA approved as diuretic, but discontinued
- Well-studied potent pan-specific inhibitor of CAs



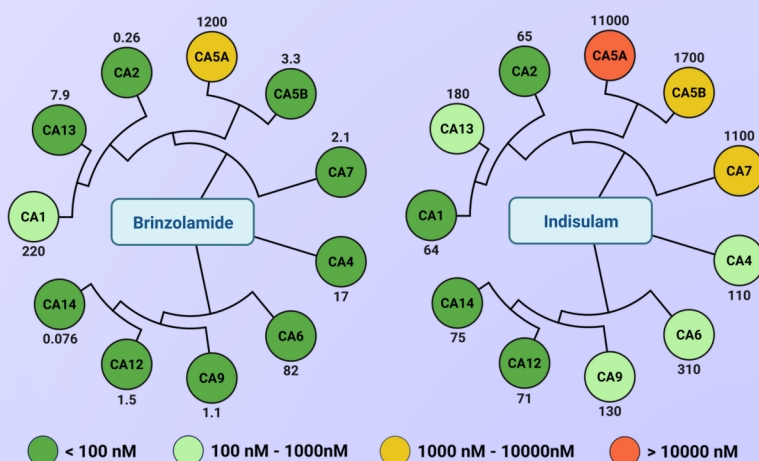
Reference data source: Linkuviene V., et al. *Q. Rev. Biophys.* (2018)

## Primary sulfonamides commonly act as non-specific CA inhibitors

### Brinzolamide

- FDA approved for the treatment of elevated intraocular pressure
- Mode of action: inhibition of CA2
- Supposedly highly selective CA2 inhibitor

Inhibits all CA isoforms with  $K_D$  values ranging from 40 pM to 1000 nM



### Indisulam

- Discontinued in Phase 2 for treatment of AML and some solid tumors
- Mode of action: disruption of cell metabolism
- Supposedly inhibits CA1, CA2, CA6 and CA9

Inhibits most CA isoforms with  $K_D$  values ranging from 60 nM to 1000 nM



High-throughput screening (HTS) on our in-house compound libraries (> 150K cpds) for any Carbonic Anhydrase available

