



fastHDX

CAPTURE EVERY TRANSIENT STATE
IN PROTEIN DYNAMICS



Some of the most important protein dynamics happen faster than the blink of an eye. If you're not measuring on the millisecond scale, you're missing the story.



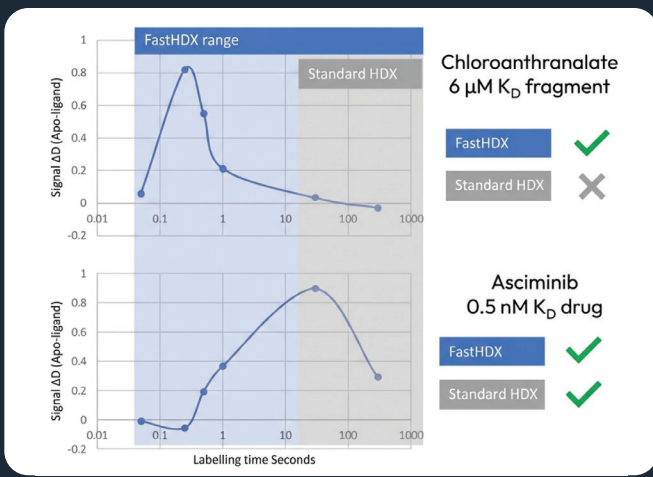
HDX—now at millisecond resolution. Meet FastHDX.

FastHDX enables millisecond HDX measurements, revealing the earliest structural responses of proteins to binding and environmental changes. By exposing dynamics invisible to conventional methods, it provides clear mechanistic insight into structure, stability, and conformational behavior, accelerating the discovery of new therapeutic targets.

FastHDX: See what others can't detect.

	Conventional HDX	fastHDX
Sub-second labeling time	×	✓
Long time points	✓	✓
Resolution	Seconds	Milliseconds
Transient/non-equilibrium states	×	✓
Weak allosteric binders	×	✓
Fragment screening MoA	Limited	✓
Peptide mapping	Limited	✓
IDP/IDR dynamics	×	✓

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Rapid identification of weak allosteric binders.

By capturing conformational changes at millisecond timescales, FastHDX detects even the weakest allosteric binding events. These binders, like asciminib are often invisible to conventional HDX-MS and until now, required specialized NMR to be directly observed.

By resolving transient, non-equilibrium states across a wide kinetic range, FastHDX accelerates candidates' progression through therapeutic development.

FastHDX enables scientists to design and develop therapies against previously inaccessible targets by revealing protein behavior that conventional approaches miss.



Allostery

Map and understand transient, non-equilibrium states and transitions resulting from allosteric regulation.



Small molecule binding

Identify weak binders that are missed by traditional systems, or require tedious NMR.



IPDs & IDRs

Map and characterize disordered regions, allowing for IDP/IDR targeting therapies.



Peptide mapping

Assess peptide and peptide conjugate structures to develop targets and understand MoA.

FastHDX Technical Specifications

Labeling time range	50 ms to 24h
Labeling resolution	1 ms
Temperature control	0°C to 40°C
Quench zone temperature	0°C

Sample volume	8 μ L (per time point)
Samples per run	Up to 6, automated
Unattended run time	Up to 24h (for 6 samples) Up to 7 days, with autosampler