

NEW!



iTC₂₀₀[™] Isothermal Titration Calorimeter

Complete Binding Parameter Determination With Only 200 μ l of Sample

Isothermal Titration Calorimetry (ITC) is the gold standard for measuring biomolecular interactions. ITC simultaneously determines all binding parameters (n , K , ΔH and ΔS) in a single experiment - *information that cannot be obtained from any other method.*

The MicroCal iTC₂₀₀ system is the most sensitive isothermal titration calorimeter available. It is designed to address the needs of today's life science researchers - particularly those in drug discovery and development. With its reduced size and associated sample quantity requirements, the iTC₂₀₀ is significantly faster than previous models. Designed for ease-of-use, all functions are operated through software to facilitate fast and accurate analyses.

Applications include: characterization of molecular interactions of small molecules, proteins, antibodies, nucleic acids, lipids and other biomolecules, enzyme kinetics and the assessment of the effect of molecular structure changes on binding mechanisms.

MicroCal instruments are found at major pharmaceutical, biotech, academic and government institutions worldwide.

Why iTC₂₀₀?

- More than just affinities: Simultaneous determination of all binding parameters in a single experiment. Information unobtainable from more limited binding assays.
- Application versatility: Investigate any biomolecular interaction with high sensitivity. Experiments require only 200 μ l of sample. As little as 5-10 μ g of protein can be used in the sample cell.
- True in-solution technique: No immobilization or labeling required. No buffer restrictions. Easily handles turbid solutions.
- Fast time to first result: With faster equilibration times, two runs per hour can be easily accomplished. Requires no assay development or dedicated user to achieve high quality results.
- Easy to use: Includes user friendly experiment design wizards and easy filling and cleaning procedures.
- Automatable: iTC₂₀₀ can be upgraded to provide sample throughput of up to 50 samples per day with a capacity to process as many as 384 samples unattended.
- Complete system: No additional accessories to purchase. No reagents are required.

Isothermal Titration Calorimetry (ITC) is a technique that directly measures the heat released or absorbed during a biomolecular binding event. Measurement of this heat enables accurate determination of binding constants (K_B), reaction stoichiometry (n), enthalpy (ΔH) and entropy (ΔS), thereby providing complete information of the molecular interaction in a single experiment. ITC is the method of choice for characterizing biomolecular interactions.

The iTC₂₀₀ is controlled by an intelligent user interface that assists in experimental design and processes data at the end of sample runs. Data analysis is performed with Origin®, a market-leading data analysis package. Results are presented in an Excel format for further analysis or data transfer.

iTC₂₀₀ Features:

- Directly measures sub-millimolar to nanomolar binding constants (10^2 to 10^9 M⁻¹)
- Measures nanomolar to picomolar binding constants using competitive binding technique (10^9 to 10^{12} M⁻¹)
- Non-reactive cells for excellent chemical resistance
- Fixed-in-place cells for reproducible ultrasensitive performance with low maintenance
- Precision liquid delivery system for accurate and reproducible injections
- Three user selectable response times (US Patent #5,967,659) for application versatility
- User-selectable mixing speeds to match sample conditions
- Peltier controlled for rapid temperature equilibration
- Includes ThermoVac® sample preparation and cleaning device



The new iTC₂₀₀ utilizes 200 μ l sample and reference cells and a 40 μ l syringe capable of injection volumes as small as 0.1 μ l.

SPECIFICATIONS

Operating Temperature Range	2°C to 80°C
Cell Design	Coin-shaped, fixed-in-place
Cell Volume	0.2 ml
Weight	Cell: 7.25 kg/16 lbs
Dimensions	Cell: 16.5 x 33 x 26.7 cm 6.5 x 13 x 10.5 inches

Full instrument specifications are available upon request.

Ultrasensitive Calorimetry for the Life Sciences™

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