

MICROCAL ITC FAQ

How do I get started?

Before you make an appointment for training, do some background reading to familiarize yourself with the principles of the technique and determine whether it's likely that it will work for your system. Finding a relevant paper in the literature or checking out one of the references on this website would be a good place to start.

How do I arrange for a training session for the instrument?

Contact Bradley Turner (bif@mit.edu or 617-452-2051) to find out how long training will take and to make an appointment when you and he and the instrument are all free at the same time.

How do I make reservations for the instrument?

The reservation for the initial training session will be made by Brad. After you're trained, you'll make reservations online through the Exchange calendar if you're an MIT person. People from outside MIT will need to ask Brad to make reservations for them.

How much sample will I need?

You'll need 2.5 ml of protein at a concentration of 4-60 μ M and 800 μ l of ligand at a concentration of 60-500 μ M. You want your ligand to be 10-20 X more concentrated than your protein so you get a large enough heat signal when binding occurs.

How should I prepare my samples?

The buffers in your protein and ligand need to match exactly. (See the Sample Preparation Tips page.) To achieve this, dialyze both protein and ligand against the same buffer and save some of the dialysis buffer to use for your reference or for dilution.

Are there any restrictions on what materials I can put into the ITC?

Anything water-soluble between pH 2 and 12 which is at BL1 level or lower is fine. Organic solvents are not allowed in the ITC.

How long does a titration take?

A typical titration takes 2.5 hours by itself. When you add in the time to set up the titration and do instrument clean-up afterward, the whole thing takes about 4 hours.

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