

Cat Nr: MO-C031

Monolith NT™ Control Kit GREEN

MicroScale Thermophoresis Grade

Control Kit for performing standard biomolecule interaction experiments using Monolith instruments including Nano-GREEN detectors

CONTENT AND STORAGE

Monolith NT™ Control Kit GREEN is shipped at room temperature.
Store at -20 °C upon arrival

Each kit contains material sufficient for 4 reactions

4x Vial A (500 nM AptamerCy3 GREEN)

4x Vial B (50 mM AMP)

4x Vial C (Reaction buffer)

100 x 200 µl Tubes

Expiry date: see kit cover

INTRODUCTION

Control Kits contain biomolecules and a protocol for performing standard biomolecule interaction experiments using Monolith NT™ instruments. These kits are recommended

- when using Monolith instruments for the first time
 - for training new lab employees
 - for monitoring the correct performance of Monolith instruments
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SAMPLE PREPARATION PROTOCOL

Please check the control software version available on your Monolith. For Monolith instruments equipped with MO.Control software, follow the instructions below. For Monolith instruments equipped with NTControl, please see next page for instructions.

PROTOCOL FOR USE WITH MO.CONTROL SOFTWARE

1. Unpack the kit and thaw the solutions. Spin each vial for a few seconds to ensure that any liquid stuck in the cap is at the bottom of the vial and not lost upon opening. Mix each vial well by pipetting.
2. Start a Binding Affinity experiment. Set the temperature control to 22 °C. Fill in the *Plan* page as shown below. If supported by your Monolith instrument, it is also possible to use the auto-detect function for determining the optimal LED power setting. Then follow the instructions given by the software to run the experiment.

On the Instructions page, the reaction buffer is referred to as ligand buffer.

Plan Your Experiment

Target

AptamerCy3 GREEN

Concentration of stock solution

500

nM

Concentration in this assay

250nM

Assay buffer

MST Buffer including 0.05% Tween

Capillary

Monolith NT.115 Standard Treated Capillary (K002)

System settings

Excitation Power

20 %

MST-Power

Medium

Ligand

AMP

Estimated Kd

optional

µM

Concentration of stock solution

50

mM

Ligand in organic solvent like DMSO

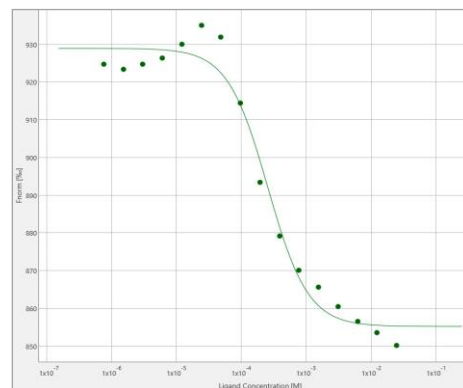
Ligand buffer in this assay

50.0%

Highest concentration in this assay

25mM

3. Deselect Automatic Mode in the Dose Response results details and choose the Hill model for fitting the data. The interaction should show an EC₅₀ of around 100 µM.



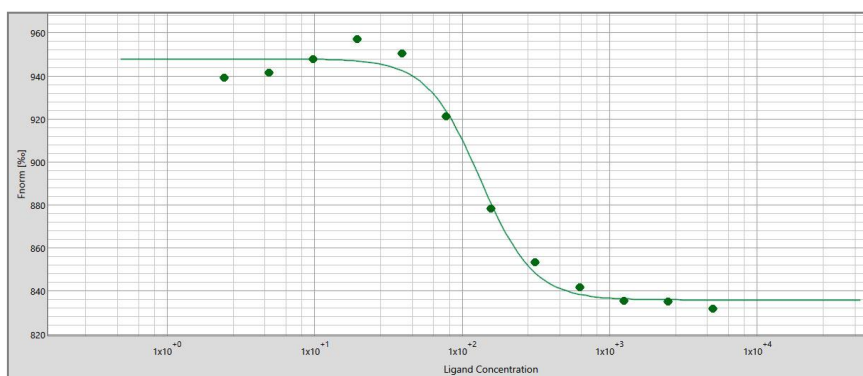
PROTOCOL FOR USE WITH NTCONTROL SOFTWARE

1. Unpack the kit and thaw the solutions. Spin each vial for a few seconds to ensure that any liquid stuck in the cap is at the bottom of the vial and not lost upon opening.
2. Set the temperature control to 22 °C.
3. Prepare 16 reaction tubes. Add 20 µl of vial B (AMP) to the first tube. Add 10 µl of vial C (Reaction buffer) to the other 15 tubes. Transfer 10 µl with a clean tip from the first tube to the second tube and mix well by pipetting up and down. With a clean tip transfer 10 µl from the second tube to the third tube and mix well. Continue this 1-fold serial dilution until tube number 16. Remove and discard 10 µl from tube 16.
4. Add 10 µl of the vial A (AptamerCy3 GREEN) solution prepared in step 3 to each tube containing AMP dilution. Mix well by pipetting.
5. Fill 16 Monolith NT.115 Capillaries with the prepared solutions and transfer the capillaries to the capillary tray. Load the tray into the Monolith and start the measurement using the settings in the table below. First time users can find more detailed information on how to perform measurements in the instrument user manuals and starting guides.

LED power	20 %
MST power	40 %

6. Fit the data using the Hill model. The interaction should show an EC₅₀ of around 100 µM.

Capillary	Concentration AMP [µM]
1	25000.0000
2	12500.0000
3	6250.0000
4	3125.0000
5	1562.5000
6	781.2500
7	390.6250
8	195.3125
9	97.6563
10	48.8281
11	24.4141
12	12.2070
13	6.1035
14	3.0518
15	1.5259
16	0.7629



Contact

TECHNICAL SUPPORT

Please get in touch with us for specific questions concerning the product performance.

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PURCHASER NOTIFICATION

NanoTemper grants the buyer the non-transferable right to use the purchased product for research conducted by the buyer. The buyer cannot sell or otherwise transfer this product or its components for commercial purposes.

Limited warranty:

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