Corning® NBS™ 384 Well Low Volume Microplates Perform Well in Fluorescence Polarization Based Assays

SnAPPShots
A brief report from the Corning Applications Group

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Introduction

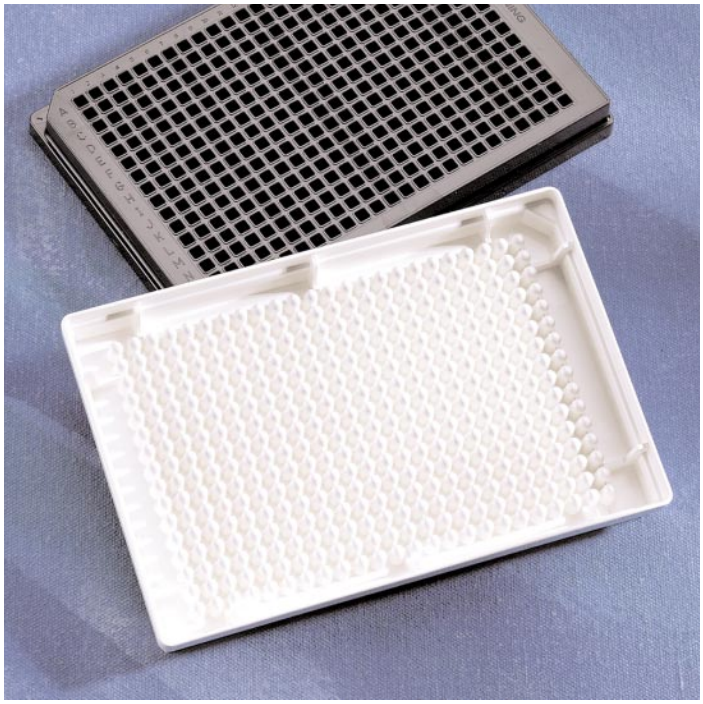
Corning NBS microplates provide an inert, nonionic, hydrophilic surface that can increase assay sensitivity and provide more consistent results by drastically reducing nonspecific protein binding to microplates.

In the present work, we demonstrate that NBS microplates do not interfere with the binding affinity of receptors and perform well in fluorescence polarization based receptor-ligand binding assays.

Methods and Results

The experiment described here was performed using Perkin Elmer's FP2 Neurotensin kit. The performance data were generated with 2 nM BODIPY-TMR Neurotensin and 0.89 µg of Neurotensin 1 receptor membrane preparation (see supplier's manual for more details). Assays were conducted on Corning 384 well low volume (LV) NBS microplates (10 µL total volume) and compared to performance on Corning standard 384 well microplates (40 µL total volume).

The binding capability of Neurotensin 1 receptors in the form of crude membrane preparation was evaluated by the competitive binding assay in the presence of BODIPY-TMR Neurotensin and native Neurotensin. The binding of labeled Neurotensin ligand to the receptor is indicated by high millipolarization (mP) values.



The result in Figure 1 shows that the displacement curve obtained with 384 well LV NBS™ microplates (red curve) is similar to that obtained with the standard 384 well non-treated microplate (blue curve), indicating no interference of the NBS microplate with the binding capability of Neurotensin 1 receptors. In addition, the 70% reduction in the amount of reagents achieved in the 384 well LV NBS microplate had no adverse effect on the experimental result.

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Conclusions

- NBS microplates do not interfere with GPCR ligand binding assays.
- 384 well low volume microplates can offer significant assay savings by reducing reagent and sample usage.

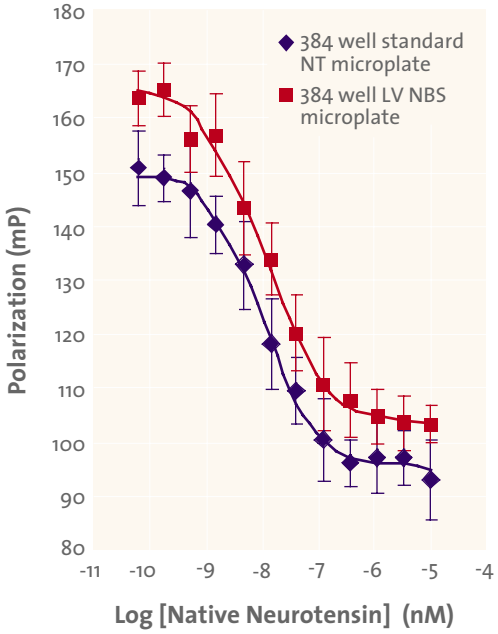

Figure 1. Displacement of BODIPY-TMR labeled Neurotensin from Neurotensin receptor 1.

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