

# Enabling Drug Discovery: Corning® 96 Well Half Area and 384 Well Low Volume Plate Performance in Fluorescent Assays



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The trend towards assay miniaturization for high-throughput screening (HTS) continues to spur development of homogenous, fluorescence-based assays in higher density, lower volume microplate formats. Fluorescent techniques are well suited for HTS and enable the reduction of reagents concentrations and assay volumes without a significant loss in sensitivity. Corning offers a variety of microplates that provide superior performance in fluorescent assays following miniaturization. We demonstrate the performance of a fluorescence polarization and fluorescence intensity assay in medium and non-binding, reduced area microplates. Superior assay performance was demonstrated during assay volume and reagent concentration reductions in Corning 96 well half area and 384 medium bind LV and 384 LV nonbinding surface (NBS™) microplates. Corning continues to support the HTS industry by providing cost saving alternatives to standard microplate formats that enable assay miniaturization and ultimately assay cost reduction.



384 Well Low Volume Plates    96 Well Half Area Plates

## Conclusions

- Corning 96 Well Half Area and 384 Well Low Volume assay plates enable researchers to reduce standard assay volumes 4 - 40-fold without compromising assay sensitivity and precision.
- Corning 384 NBS Coated Low Volume assay plates enable a Z' factor of 0.81 in fluorescence polarization assays with 400-fold protease concentration reductions and significant reduction in mP.

- Corning continues to support the drug discovery process by offering products that enable successful assay miniaturization and significant cost savings.

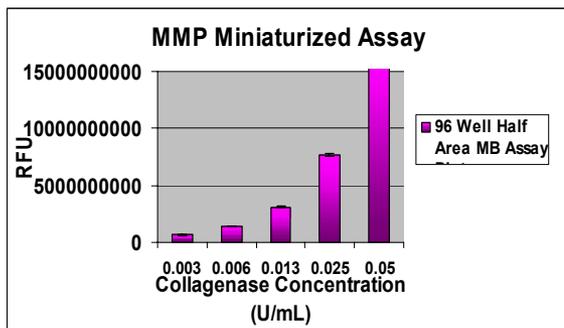


Figure 1. Titration of *Collagenase* incubated for 30 minutes at room temperature with 100 µg/mL of DQ Type 1 Collagen in 50 µL. Z factor of 0.6 using 8 times less enzyme (0.00625 U/mL) and 4-fold less volume than manufacturer recommended amounts.

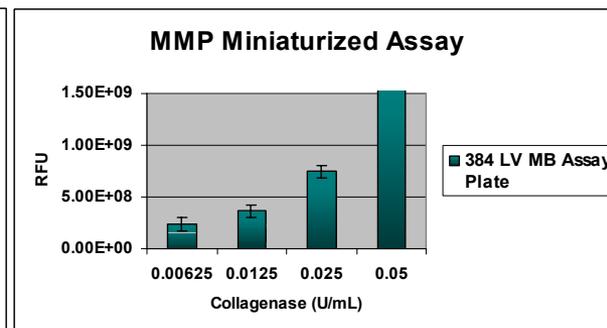


Figure 2. Titration of *Collagenase* incubated for 30 minutes at room temperature with 100 µg/mL of DQ Type 1 Collagen in 5 µL. Z factor of 0.6 using 8 times less enzyme (0.00625 U/mL) and 40-fold less volume than manufacturer recommended amounts.

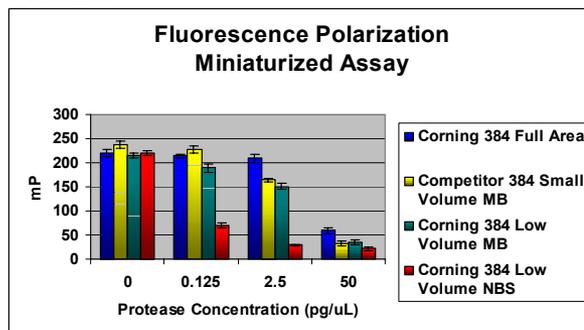


Figure 3. Titration of *Streptomyces griseus* protease with 100 pg/µL of BODIPY FL casein in 10 µL volumes for 60 minutes at room temperature. Significantly reduced mP for all protease concentrations in Corning NBS 384 LV assay plate compared to other plate formats. Z factor of 0.81 using 400-fold lowered protease concentration (0.125 pg/µL) in 20-fold less volume than manufacturer recommended amounts.

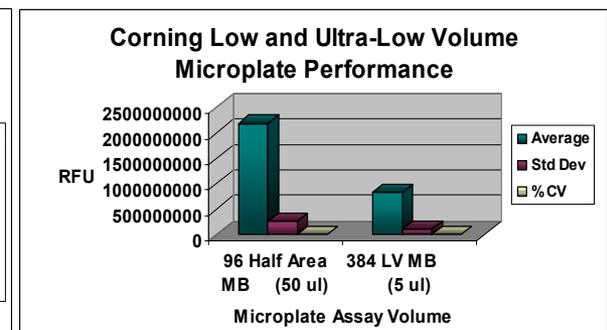


Figure 4. 0.3125 U/mL *Collagenase* incubated at room temperature for 30 minutes with 100 µg/mL DQ Type 1 Collagen. % CV less than 8% for 50 µL and 5 µL assay volumes in both medium bind, reduced volume microplates.