Brilliant Sodium Assays

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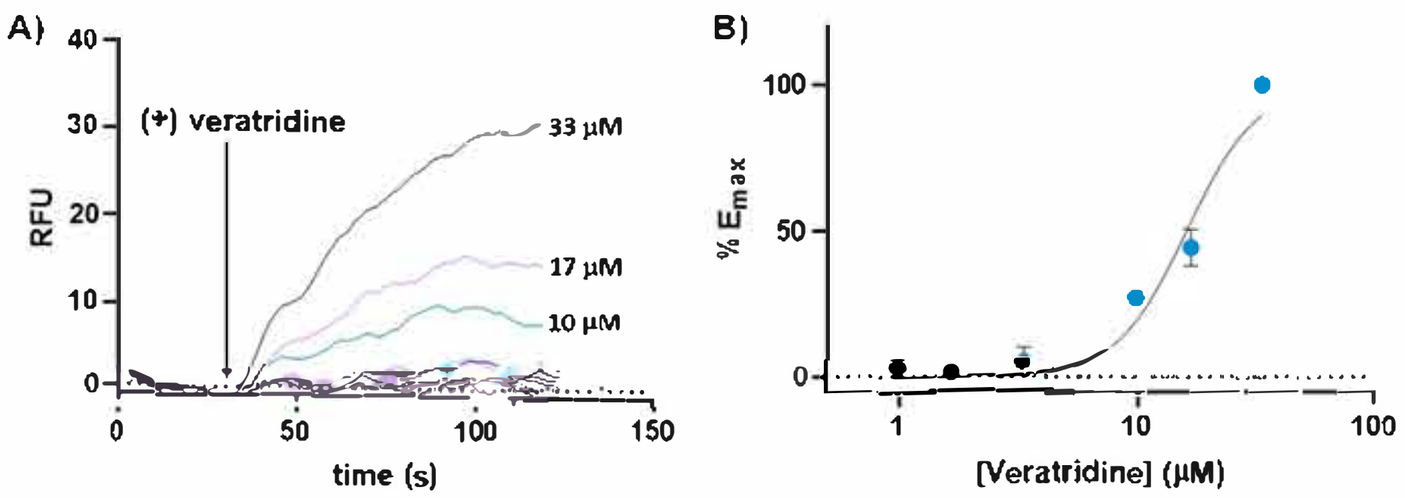
THE 1ST KIT DESIGNED TO MEASURE NA^+ FLUX IN AN HTS-COMPATIBLE FORMAT

ION's Brilliant Sodium Assay is a total assay solution for multi-well plate-based, high-throughput measurements of changes in intracellular Na^+ mediated through a wide-variety of plasma membrane and intracellular sodium channels and transporters. In multi-well, plate-based formats, the Brilliant Sodium Assay can be used to discover and characterize the effects of many tens-of-thousands of compounds and environmental factors on effectors of intracellular Na^+. ION's Brilliant Sodium Assay provides all the reagents necessary for use as a wash or no-wash assay with adherent or non-adherent cells. The optional use of a probenecid solution and an extracellular background masking solution (TRS) offers the ultimate in compatibility for cells types which are difficult to load with fluorescent Na^+ indicators (e.g. Chinese Hamster Ovary, CHO cells) and when performing assays in complete, serum-containing cell culture medium is desired. ION's Brilliant Sodium Assay is compatible with fluorescence microscopes, flow cytometers, and plate readers capable of detecting fluorescein or more optimally, yellow fluorescent protein (YFP)

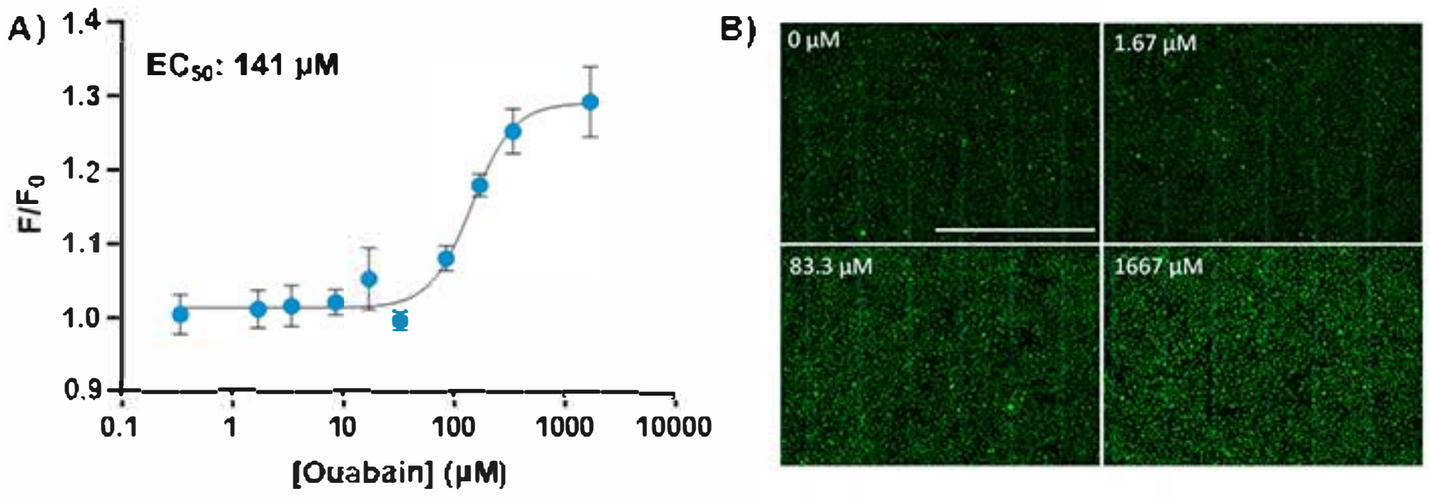
ING-2 | Measuring $Na_v1.3$ activity using ING-2 AM in engineered HEK $Na_v1.3$ cells.



Measuring $Na_v1.3$ activity using ING-2 AM in engineered HEK $Na_v1.3$ cells.

A) Baseline subtracted, kinetic fluorescence data acquired using a Molecular Devices FlexStation® (Ex: 515 nm, Em: 545 nm, Cutoff: 530 nm) for all veratridine concentrations evaluated. Veratridine, a potent inhibitor of Nav channel inactivation, was added at 30 sec. B) Veratridine concentration response curve (CRC) in engineered HEK $Na_v1.3$ cells. The estimated EC50 is 15 µM, and error bars represent standard deviation (n = 3).

ING-2 | Measuring Na^+/K^+-ATPase inhibition using ING-2.



Measuring Na^+/K^+-ATPase inhibition using ING-2.

A) Ouabain concentration response curve (CRC) in CHO K1 (WT) cells measured using ING-2. F/F0 were recorded 30 min. after the addition of ouabain using a Molecular Devices FlexStation® (Ex: 515 nm, Em: 545 nm, Cutoff: 530 nm). The measured EC50 is 141 µM, and error bars represent standard deviation (n = 3). B) Representative fluorescence images acquired ~35min. after the addition of ouabain using a BioTek® Cytation equipped with a GFP filter cube (Ex: 469/35 nm, Em: 525/39 nm) and 4X objective. Corresponding ouabain concentrations are in the top left of each image, and increased fluorescence at higher concentrations of ouabain is observed. Scale bar is 1mm.

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