

# PRODUCT INFORMATION



## IPG-1 AM

Item No. 35542

**CAS Registry No.:** 1369302-18-0  
**Formal Name:** 6-[(acetyloxy)methoxy]-4,5-dichloro-9-[4-[16-(4-formyl-2-methoxyphenyl)-1,4,10,13-tetraoxa-7,16-diazacyclooctadec-7-yl]-3-methoxyphenyl]-3-oxo-3H-xanthene-2,7-dipropanoic acid, 2,7-bis[(acetyloxy)methyl] ester

**Synonyms:** APG-1 AM, Asante Potassium Green-1 AM, ION Potassium Green-1 AM, IPG-1 Acetoxymethyl ester

**MF:** C<sub>55</sub>H<sub>62</sub>Cl<sub>2</sub>N<sub>2</sub>O<sub>20</sub>

**FW:** 1,142.0

**Purity:** ≥90%

**UV/Vis.:** λ<sub>max</sub>: 472 nm

**Ex./Em. Max:** 525/545 nm

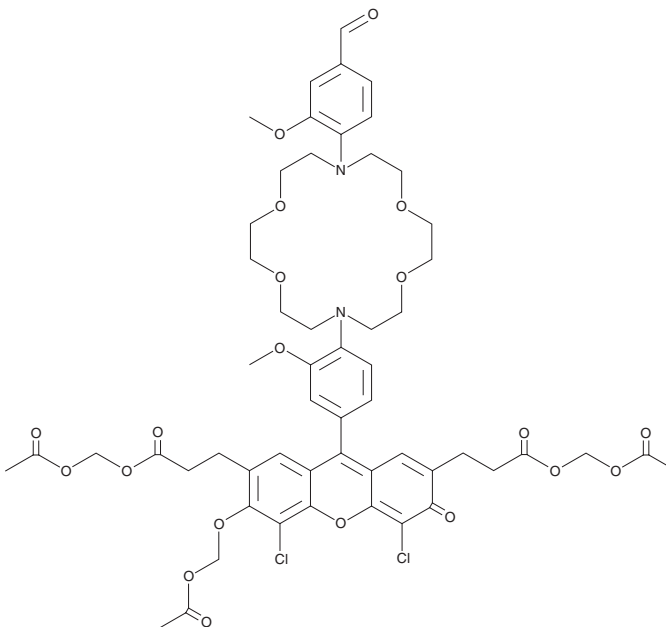
**Supplied as:** A solid

**Storage:** -20°C

**Stability:** ≥4 years

**Special Conditions:** Protect from light and moisture

*Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.*



## Laboratory Procedures

IPG-1 AM is supplied as a solid. A stock solution may be made by dissolving the IPG-1 AM in the solvent of choice, which should be purged with an inert gas. IPG-1 AM is soluble in the organic solvent methanol.

## Description

IPG-1 AM is a cell-permeable fluorescent potassium indicator. It binds to potassium ( $K_d = 50$  mM) and displays excitation/emission maxima of 525/545 nm, respectively. IPG-1 AM is also available in a cell-impermeable form (Item No. 35543).

### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

### WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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## Assay Protocol

*NOTE: Allow all reagents to warm to room temperature before proceeding*

1. Add 10 ml of assay buffer to a 15 or 50 ml conical tube.

*NOTE 1: HEPES-buffered Hank's balanced salt solution (HBSS), pH 7.2-7.4, is recommended, although other buffers can be used.*

2. Add 100  $\mu$ l of a 100X Pluronic™ F-127 solution (1-50% w/v) to the conical tube\*. Pluronic™ F-127 is a biocompatible surfactant used to ensure equitable dye distribution and cellular loading.
  - a. Optional: add 100  $\mu$ l of 2 mM probenecid stock solution to the conical tube. Probenecid (Item No. 14981) is an anion transport inhibitor used to improve intracellular dye retention. Use of probenecid is recommended, but not required, for all cell types and dyes.

*\*Final working concentration of Pluronic™ F-127 should be between 0.01 and 0.5% w/v. User should optimize the concentration of Pluronic™ F-127 to suit experimental requirements.*

*NOTE 2: Probenecid is an inhibitor or agonist of multiple ion channels and may have undesirable cellular effects that could affect dye performance.*

3. Vortex conical tube briefly to mix.
4. Dissolve IPG-1 AM in 25  $\mu$ l of DMSO and vortex dye tube briefly to mix.
5. Centrifuge dye tube briefly to collect all contents at the tube bottom.
6. Add entire contents of dye tube to the conical tube containing the assay buffer solution to make the dye loading solution.
7. Vortex conical tube briefly to mix.

*NOTE 3: The dye loading solution should be used within two hours for best results.*

8. Remove cell culture medium and add dye loading solution. Recommended volumes are:
  - a. 35 mm dish or 6-well plate: 1.5 ml/dish or well
  - b. 96-well plate: 100  $\mu$ l/well
  - c. 384-well plate: 20  $\mu$ l/well

*NOTE 4: To prevent cell detachment or if using suspension cells, the dye loading solution can be added directly to the media-containing wells. User must double the component concentrations to achieve the same final concentration of all reagents.*

9. Incubate cells with the dye loading solution at 37°C for 60 minutes.
10. Read fluorescence using a plate reader at excitation and emission wavelengths of 525 and 545 nm, respectively.

Or

Image using a fluorescence microscope with filters for YFP, GFP, or fluorescein.

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