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DATASHEET

IPG-4 AM

Product overview

Name IPG-4 AM Cat No HB6781

Alternative names **Biological description** Asante Potassium Green, Ion Potassium Green, APG, IPG, APG-4, IPG-4

Membrane permeable potassium indicator (Excitation 525nm, Emission 545nm) which is compatible with a wide variety of detectors (e.g. fluorescent microscopes, plate readers, flow cytometers, and fluorescent indicator-doped solid-state sensors). Can be used with common filter sets (e.g. YFP and FITC) and multiphoton approaches. Higher affinity for potassium ($K_d = 7$ mM) compared to IPG-2 ($K_d = 7$ mM) representation of the second se 18mM) Suitable for diverse applications such as extracellular K⁺ sensing and monitoring intracellular K⁺ dynamics. Synthetic fluorochrome which incorporates a K⁺-binding moiety. Under conditions where K⁺ is not bound, the fluorescence of the sensor is significantly quenched. When K⁺ is bound, the quenching is relieved, and the fluorescence of the sensor dramatically increases. Additionally IPG-4 is not a MDR1 (pgp) substrate therefore is compatible with probenecid free assays. For optimal cell loading, F-127 is available either as a 10% solution in water (HB16503) and 20% solution in DMSO

(HB9631).

Applications

Purity

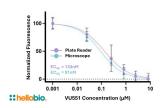
Description

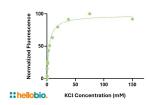
fluorescence imaging, live cell imaging

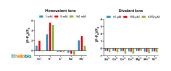
>95%

Yellow-green fluorescent potassium indicator. Membrane permeable. Higher affinity than IPG-2.

Images







Biological Data

Application notes Please follow our IPG-4 AM Protocol

Solubility & Handling

Storage instructions -20°C Solubility overview **DMSO** Storage of solutions

Prepare and use solutions on the same day if possible. Store solutions at -20 °C for up to one month if

storage is required. Equilibrate to RT and ensure the solution is precipitate free before use. This compound is light sensitive; exposure to light may affect compound performance. We therefore

recommend storing the solid material and any solutions in the dark and protecting from light.

Stable for ambient temperature shipping. Follow storage instructions on receipt.

Shipping Conditions This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not **Important**

for human or veterinary use

Chemical Data

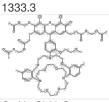
Handling

Chemical name acetyloxymethyl 3-[3-(acetyloxymethoxy)-7-[3-(acetyloxymethoxy)-3-oxopropyl]-4,5-dichloro-9-[4-(5,17)]

,5,15(20),16,18-hexaen-11-yl)-3-(2-methoxyethoxy)phenyl]-6-oxoxanthen-2-yl]propanoate

Molecular Weight

Chemical structure



 $\textbf{SMILES} \qquad \qquad \text{CIC1=C2C(C(C3=CC(OCCOC)=C(N(CCOC4=C(N5CCOCCOCCN6CCOCCOC5)C=CC(C)=C4)CC} \\$

 $\texttt{OC7} = \texttt{C6C} = \texttt{CC(C)} = \texttt{C7)C} = \texttt{C3)} = \texttt{C(C} = \texttt{C8CCC(OCOC(C)} = \texttt{O}) = \texttt{O)C(O2)} = \texttt{C(C1)C8} = \texttt{O}) = \texttt{CC(CCC(OCOC(C))} = \texttt{C1)C1} = \texttt$

C)=O)=O)=C1OCOC(C)=O

InChiKey ORCBRKCLNTYBFH-UHFFFAOYSA-N

AppearanceSolidExcitation525 nmEmission545 nm

References

Calibration and characterization of intracellular Asante Potassium Green probes, APG-2 and APG-4.

Rana PS et al (2019) Analytical biochemistry 567 **PubMedID** 30503709

Inadequate brain glycogen or sleep increases spreading depression susceptibility.

Kilic K et al (2018) Annals of neurology 83 **PubMedID** 29244233

Imaging extracellular potassium dynamics in brain tissue using a potassium-sensitive nanosensor.

Wellbourne-Wood J et al (2017) Neurophotonics 4 **PubMedID** 28217712