**FAM-cAMP PDE IV substrate *Green fluorescence***

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<thead>
<tr>
<th><strong>Ordering Information</strong></th>
<th><strong>Storage Conditions</strong></th>
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<tr>
<td>Product Number: 13602 (0.5 umol)</td>
<td>Store at -20 °C</td>
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**General Properties**
- Molecular Weight: ~ 800
- Maximum excitation: 492 nm
- Maximum Emission: 515 nm
- Solvents: DMSO

**Biological Applications**
This green fluorescent cAMP derivative is a specific substrate for phosphodiesterase (PDE) IV. It can be used for assaying PDE IV activities or screening PDE IV inhibitors in combination with anti-cAMP antibody in a FRET readout or FP format. PDE is a group of enzymes that degrade the second messenger molecules: cyclic nucleotides cAMP and cGMP. They regulate the localization, duration, and amplitude of cyclic nucleotide signaling within subcellular domains. PDEs are therefore important regulators of signal transduction mediated by these second messenger molecules. PDE enzymes are often targets for pharmacological inhibition due to their unique tissue distribution, structural and functional properties. Inhibitors of PDE can prolong or enhance the effects of physiological processes mediated by cAMP or cGMP by inhibition of their degradation by PDE. PDE inhibitors have been identified as new potential therapeutics in areas such as pulmonary arterial hypertension, coronary heart disease, dementia, depression and schizophrenia.

**Sample Protocol**
Following protocol only provides a guideline, and should be modified according to your specific needs

1. Make a 1 mM stock solution by adding 500 µL of DMSO into the vial of 0.5 umol FAM-cAMP PDE IV substrate.

2. Make 2X FAM-Cyclic-3',5'-AMP PDE IV substrate assay solution by dilute 1 mM FAM-Cyclic-3',5'-AMP PDE IV substrate stock solution into your PDE buffer (such as 10 mM Tris-HCl, pH 7.4, 10 mM Mg Cl₂, 1 mM MnCl₂) to make a 200-400 nM solution. Make only sufficient quantity needed for the assay; store remaining stock solution in aliquots at -20°C.

3. Mix equal volume of the PDE IV standards or samples with 2X FAM-Cyclic-3',5'-AMP PDE IV substrate assay solution, and incubate at room temperature for at least 1 hour.

4. Monitor the fluorescence polarization at Ex/Em = 490/525 nm.

**References**