Fluorescent Dopamine (DnsylD-1™)

Characteristics:

- Dopamine linked through a 5-carbon linker to dansyl.
- Large spectral shift between excitation and emission maxima. Ex:/Em: 333/515nm
- Minimal surrounding autofluorescence at detection wavelengths
- Stable in physiological buffers
- Emits bright blue fluorescence
- Conjugated with small fluorescent tag that maintains the affinity and selectivity of native dopamine
- Blockable by standard inhibitors to dopamine receptors and transporter
- Binds dopamine receptors and DAT at nanomolar concentrations. Use standard inhibitors and methods to distinguish uptake from receptor binding

Specifications:

Weight/Unit: 0.5 mg (1μmole) 1 mg (2 μmole); 5 mg (10μmole)
MW: 499.62 (Confirmed by MALDI)
Appearance: Lyophilized white solid
Solubility: DMSO
Spectral Characteristics: Ex/Em: 333/515 nm
Use at 10X Kd of unlabeled dopamine for respective dopamine receptor isoform.
Purity: ≥ 97% (HPLC)
Storage (solid): 4^{o}C, dark, desiccate. DMSO solubilized material: Aliquots at -20^{o}C

Recommended Directions For Solubilization:

(Other solubilization volumes are applicable depending on the mass of the starting material and on the experimenter's final assay concentration).

1. **0.5 mg DnsylD-1**
   Add 10 μl of DMSO, vortex and solubilize. Centrifuge and collect supernatant. Aliquot and freeze suspended material at -20^{o}C or -80^{o}C. Dilute aliquot in physiological assay buffer to final assay concentration. As a starting point, assay DnsylD-1 at 10-100X the Kd of unconjugated dopamine to the dopamine receptor subtype of interest. Employ a similar method to determine the concentration used for uptake assays.

2. **1 mg DnsylD-1**
   Add 10 μl of DMSO, vortex and solubilize. Centrifuge and collect supernatant. Aliquot and freeze suspended material at -20^{o}C or -80^{o}C. Dilute aliquot in physiological assay buffer to final assay concentration. As a starting point, assay DnsylD-1 at 10-100X the Kd of unconjugated dopamine to the dopamine receptor subtype of interest. Employ a similar method to determine the concentration used for uptake assays.

3. **5 mg DnsylD-1**
   Add 50 μl of DMSO, vortex and solubilize. Centrifuge and collect supernatant. Aliquot and freeze at -20^{o}C or -80^{o}C. Dilute aliquot in physiological assay buffer to final assay concentration. As a starting point, assay DnsylD-1 at 10-100X the Kd of unconjugated dopamine to the dopamine receptor subtype of interest. Employ a similar method to determine the concentration used for uptake assays.