**PRODUCT INFORMATION**

**Dynorphin A**
*Item No. 18169*

- **CAS Registry No.:** 80448-90-4
- **Formal Name:** dynorphin A
- **Synonym:** Dynorphin A (1-17)
- **MF:** C_{99}H_{135}N_{31}O_{23}
- **FW:** 2,147.5
- **Purity:** ≥95%
- **Stability:** ≥2 years at -20°C
- **Supplied as:** A crystalline solid
- **UV/Vis.:** $\lambda_{\text{max}}$: 279 nm

**Laboratory Procedures**

For long term storage, we suggest that dynorphin A be stored as supplied at -20°C. It should be stable for at least two years.

Dynorphin A is supplied as a crystalline solid. A stock solution may be made by dissolving the dynorphin A in the solvent of choice. Dynorphin A is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of dynorphin A in these solvents is approximately 30 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of dynorphin A can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of dynorphin A in PBS, pH 7.2, is approximately 5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

**Description**

Dynorphin A is a heptadecapeptide released from the cleavage of prodynorphin and found widely distributed in the central nervous system, where it is implicated in antinociceptive functions.\(^1\)–\(^3\) It acts as an opioid receptor agonist with nanomolar binding affinity to the three major isotypes $\kappa$, $\mu$, and $\delta$ ($K_i$s = 0.5-1 nM) and has also been shown to activate human ORL1, a novel opioid receptor-like receptor ($K_i$ = 386 nM).\(^4\)

**References**