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## DATASHEET

Endomorphin-1

### Product overview

|                          |                                                  |
|--------------------------|--------------------------------------------------|
| <b>Name</b>              | Endomorphin-1                                    |
| <b>Cat No</b>            | HB2410                                           |
| <b>Biological action</b> | Agonist                                          |
| <b>Description</b>       | Potent, selective $\mu$ -opioid receptor agonist |

### Biological Data

|                               |                                                                                                                                                                                                                                                                                               |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Biological description</b> | Potent, selective $\mu$ -opioid receptor agonist ( $K_i$ values are 360 pM and >1000 nM at $\mu$ , $\delta$ and $\kappa$ receptors respectively). Endogenous peptide. Shows >4000 and 15,000-fold selectivity for $\mu$ over $\delta$ and $\kappa$ receptors. Shows antinociceptive activity. |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### Solubility & Handling

|                             |                                                                                                                               |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Storage instructions</b> | -20 °C (desiccate)                                                                                                            |
| <b>Solubility overview</b>  | Soluble in water                                                                                                              |
| <b>Important</b>            | This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not for human or veterinary use. |

### Chemical Data

|                           |                                                                                                        |
|---------------------------|--------------------------------------------------------------------------------------------------------|
| <b>Chemical name</b>      | Tyr-Pro-Trp-Phe-NH <sub>2</sub>                                                                        |
| <b>Molecular Weight</b>   | 610.67                                                                                                 |
| <b>Chemical structure</b> |                                                                                                        |
| <b>Molecular Formula</b>  | C <sub>34</sub> H <sub>38</sub> N <sub>6</sub> O <sub>5</sub>                                          |
| <b>CAS Number</b>         | 189388-22-5                                                                                            |
| <b>PubChem identifier</b> | 5311080                                                                                                |
| <b>SMILES</b>             | <chem>C1CC(N(C1)C(=O)C(CC2=CC=C(C=C2)O)N)C(=O)NC(CC3=CNC4=CC=CC=C43)C(=O)NC(CC5=CC=CC=C5)C(=O)N</chem> |
| <b>InChIKey</b>           | ZEXLJFNSKAHNFH-SYKYGTTKSA-N                                                                            |

### References

#### A potent and selective endogenous agonist for the mu-opiate receptor.

Zadina et al (1997) Nature 386

**PubMedID** [9087409](#)

#### Opposite effects of neuropeptide FF on central antinociception induced by endomorphin-1 and endomorphin-2 in mice.

Wang et al (2014) PLoS 9

**PubMedID** [25090615](#)

#### Endomorphin-1 and endomorphin-2: pharmacology of the selective endogenous mu-opioid receptor agonists.

Horvath (2000) Pharmacol Ther 88

