# Suc-AAPF-pNA

| Cat. No.:            | HY-P2573                                                                           |                |  |  |  |  |
|----------------------|------------------------------------------------------------------------------------|----------------|--|--|--|--|
| CAS No.:             | 70967-97-4                                                                         |                |  |  |  |  |
| Molecular Formula:   | C <sub>30</sub> H <sub>36</sub> N <sub>6</sub> O <sub>9</sub>                      | Q <sup>*</sup> |  |  |  |  |
| Molecular Weight:    | 624.64                                                                             | HN O           |  |  |  |  |
| Sequence:            | {Suc}-Ala-Ala-Pro-Phe-{pNA}                                                        |                |  |  |  |  |
| Sequence Shortening: | Suc-AAPF-pNA                                                                       |                |  |  |  |  |
| Target:              | Others                                                                             |                |  |  |  |  |
| Pathway:             | Others                                                                             |                |  |  |  |  |
| Storage:             | Sealed storage, away from moisture and light, under nitrogen                       |                |  |  |  |  |
|                      | Powder -80°C 2 years                                                               |                |  |  |  |  |
|                      | -20°C 1 year                                                                       |                |  |  |  |  |
|                      | * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture |                |  |  |  |  |
|                      | and light, under nitrogen)                                                         |                |  |  |  |  |

## **SOLVENT & SOLUBILITY**

| In Vitro | DMSO : 100 mg/mL (160.09 mM; Need ultrasonic)                                                                                         |                               |           |           |            |  |  |
|----------|---------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|-----------|-----------|------------|--|--|
|          | Preparing<br>Stock Solutions                                                                                                          | Solvent Mass<br>Concentration | 1 mg      | 5 mg      | 10 mg      |  |  |
|          |                                                                                                                                       | 1 mM                          | 1.6009 mL | 8.0046 mL | 16.0092 mL |  |  |
|          |                                                                                                                                       | 5 mM                          | 0.3202 mL | 1.6009 mL | 3.2018 mL  |  |  |
|          |                                                                                                                                       | 10 mM                         | 0.1601 mL | 0.8005 mL | 1.6009 mL  |  |  |
|          | Please refer to the solubility information to select the appropriate solvent.                                                         |                               |           |           |            |  |  |
| In Vivo  | 1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 2.5 mg/mL (4.00 mM); Clear solution |                               |           |           |            |  |  |
|          | 2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)<br>Solubility: ≥ 2.5 mg/mL (4.00 mM); Clear solution         |                               |           |           |            |  |  |
|          | <ol> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 90% corn oil<br/>Solubility: ≥ 2.5 mg/mL (4.00 mM); Clear solution</li> </ol> |                               |           |           |            |  |  |

## **BIOLOGICAL ACTIVITY**

### Description

Suc-AAPF-pNA (Suc-Ala-Ala-Pro-Phe-pNA) is a chromogenic p-nitroanilide (pNA) substrate with the K<sub>m</sub> of 1.7 mM. Cleavage of Suc-AAPF-pNA releases 4-nitroaniline, which is yellow in colour and can be measured spectrophotometrically. Suc-AAPFpNA can be used for the measurement of free and membrane-bound cathepsin G in human neutrophils<sup>[1][2][3]</sup>.

**Product** Data Sheet



The elastase activity is measured as activity against the substrate Suc-AAPF-Pna. Aliquots (10 µL) of SmCTF samples are incubated at 30 °C with 200 µM Suc-AAPF-pNA and the activity of cercarial elastase measured as abosorbance at 400 nm<sup>[2]</sup>. Proteolytic activity is measured by hydrolysis of the substrate suc-AAPF-pNA. Serial dilutions of the proteases are made in 100 mM Tris buffer, pH 8.6, containing 10 mM CaCl<sub>2</sub>. Enzyme activity is measured at 25°C in 100 mM Tris/HCl, pH 8.6 containing 1.6 mM suc-AAPF-pNA, 0.0005% Tween-80 and 1% DMSO by monitoring the absorbance change at 410 nm using a spectrophotometer. Each dilution of enzyme is tested in triplicate<sup>[3]</sup>.

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

#### REFERENCES

[1]. Sylvie Attucci, et al. Measurement of free and membrane-bound cathepsin G in human neutrophils using new sensitive fluorogenic substrates. Biochem J. 2002 Sep 15;366(Pt 3):965-70.

[2]. A J Webb, et al. A protease-based biosensor for the detection of schistosome cercariae. Sci Rep. 2016 Apr 19:6:24725.

[3]. Jeanette M Mucha, et al. Enhanced immunogenicity of a functional enzyme by T cell epitope modification. BMC Immunol. 2002:3:2.

Caution: Product has not been fully validated for medical applications. For research use only.

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