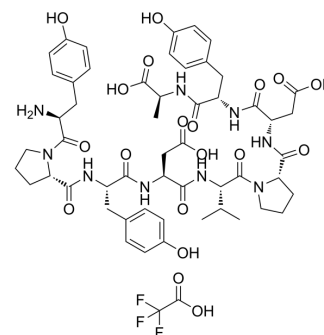


## HA Peptide TFA

<b>Cat. No.:</b>	HY-P0239A
<b>Molecular Formula:</b>	C <sub>55</sub> H <sub>68</sub> F <sub>3</sub> N <sub>9</sub> O <sub>19</sub>
<b>Molecular Weight:</b>	1216.17
<b>Sequence Shortening:</b>	YPYDVPDYA
<b>Target:</b>	Influenza Virus
<b>Pathway:</b>	Anti-infection
<b>Storage:</b>	Sealed storage, away from moisture
	Powder    -80°C    2 years
	-20°C    1 year

\* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



### SOLVENT & SOLUBILITY

#### In Vitro

DMSO : ≥ 100 mg/mL (82.23 mM)  
 H<sub>2</sub>O : 50 mg/mL (41.11 mM; Need ultrasonic)  
 \* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent		1 mg	5 mg	10 mg
	Concentration	Mass			
	1 mM		0.8223 mL	4.1113 mL	8.2225 mL
	5 mM		0.1645 mL	0.8223 mL	1.6445 mL
	10 mM		0.0822 mL	0.4111 mL	0.8223 mL

Please refer to the solubility information to select the appropriate solvent.

#### In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline  
 Solubility: 1.25 mg/mL (1.03 mM); Suspended solution; Need ultrasonic
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)  
 Solubility: ≥ 1.25 mg/mL (1.03 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil  
 Solubility: ≥ 1.25 mg/mL (1.03 mM); Clear solution

### BIOLOGICAL ACTIVITY

#### Description

HA Peptide (TFA) is a nine amino acids peptide derived from the human influenza hemagglutinin (HA). HA Peptide (TFA) is extensively used to isolate, purify, detect, and track the protein of interest in cell biology and biochemistry<sup>[1][2][3]</sup>.

#### In Vitro

HA Peptide is a highly immunoreactive tag generally used for the separation of tagged proteins from cell culture supernatants and cell lysate under neutral pH conditions and thus are handy tools for coimmunoprecipitation but are also

easily detected via western blot. HA Peptide is small and thus unlikely to interfere with the bioactivity and function of the fusion partner proteins. HA Peptide comes from human influenza hemagglutinin (HA) corresponding to amino acids 98-106 and is a strong immunoreactive epitope making it popular to isolate, purify, detect, and track the protein of interest. The recombinant HA-tagged proteins can be separated by highly specific anti-HA monoclonal antibody that is covalently immobilized on resin. The HA-tagged proteins can be eluted by mild elution approach with HA epitope at 1 mg/mL in TBS. On the other hand, three chemical elution options are available: 0.1 M glycine (pH 2-2.8), 3 M NaSCN, or 50 mM NaOH<sup>[1]</sup>. The nucleotide sequences encoding an N-terminal HA Peptide in the mammalian expression vectors is an essential element for the T7 promoter-driven expression in E. coli even without trans-acting T7 RNAP<sup>[2]</sup>. Research results suggest that HA Peptide is cleaved by caspase 3/7, and HA Peptide cleavage results in a total loss of immunoreactivity. Observations indicate that the use of HA to tag proteins and constructs to study cell death-related and apoptotic mechanisms can result in serious artifacts<sup>[3]</sup>.

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

## CUSTOMER VALIDATION

- Mol Cell. 2020 Feb 20;77(4):734-747.e7.
- Theranostics. 2020 Apr 27;10(13):5845-5864.
- Oncogene. 2019 Jan;38(5):747-764.
- Free Radic Biol Med. 2022 May 20;185:67-75.

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## REFERENCES

[1]. Zhao X, et, al. Several affinity tags commonly used in chromatographic purification. J Anal Methods Chem. 2013;2013:581093.

[2]. Moon JM, et, al. A new idea for simple and rapid monitoring of gene expression: requirement of nucleotide sequences encoding an N-terminal HA tag in the T7 promoter-driven expression in E. coli. Biotechnol Lett. 2012 Oct;34(10):1841-6.

[3]. Schembri L, et, al. The HA tag is cleaved and loses immunoreactivity during apoptosis. Nat Methods. 2007 Feb;4(2):107-8.

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

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