

## Product Data Sheet

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Product Name: CIGB-552 TFA

Cat. No.: GC81548

### Chemical Properties

Cas. No.

Formula  $C_{131}H_{198}N_{38}O_{24} \cdot xC_2HF_3O_2$  M.Wt 2689.21

Solubility Storage Sealed storage, away from moisture

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT, or blue ice upon request.

Structure

Ac-His-Ala-Arg-Ile-Lys-{d-Pro}-Thr-Phe-  
Arg-Arg-{d-Leu}-Lys-Trp-Lys-Tyr-Lys-  
Gly-Lys-Phe-Trp (TFA salt)

### Background

CIGB-552 TFA is a cell-penetrating peptide with anti-tumor properties with the IC<sub>50</sub> of 23 μM in H460 cells. CIGB-552 TFA can increase the level of protein COMMD1. CIGB-552 TFA significantly inhibits the NF-κB signaling pathway. CIGB-552 TFA can promote apoptosis of the tumor cells. CIGB-552 TFA can induce the accumulation of reactive oxygen species (ROS) in tumor cells. CIGB-552 TFA

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

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has anti-inflammatory and anti-angiogenic effects. CIGB-552 TFA can be used for the research of the lung cancer and colon cancer [1] [2] [3] [4].

In Vivo, CIGB-552 TFA (1 mg/kg; s.c.; three times a week; for three weeks) significantly inhibits tumor growth in the lung cancer mice and prolongs survival without causing significant toxicity<sup>[2]</sup>. CIGB-552 TFA (0.2-1.4 mg/kg; s.c.; two times a week; for two weeks) significantly inhibits tumor growth in mice with colon cancer and has anti angiogenic effects<sup>[4]</sup>.

In Vitro, CIGB-552 TFA (20-60  $\mu$ M, 5 h) can increase the protein content of the anti-tumor related protein COMMD1<sup>[1]</sup>. CIGB-552 TFA (25  $\mu$ M, 0-12 h) promotes the ubiquitination degradation of RelA and inhibits NF- $\kappa$ B signaling in H460 cells<sup>[1]</sup>. CIGB-552 TFA (25  $\mu$ M, 0-24 h) can increase the level of pro apoptotic proteins and reduce the level of anti apoptotic proteins in H460 cells<sup>[1]</sup>. CIGB-552 TFA (25  $\mu$ M, 24-48 h) can induce apoptosis in lung cancer cells<sup>[1]</sup>. CIGB-552 TFA (25  $\mu$ M, 8 h) reduces cellular antioxidant capacity, leading to protein and lipid oxidative damage in H460 cells<sup>[1]</sup>. CIGB-552 TFA (37.5  $\mu$ M, 1 h) induces the accumulation of reactive oxygen species (ROS) by inhibiting SOD1 activity, selectively killing tumor cells<sup>[2]</sup>. CIGB-552 TFA (75-150  $\mu$ M, 24 h) can significantly inhibit TNF- $\alpha$ -induced NF- $\kappa$ B activation<sup>[3]</sup>. CIGB-552 TFA (2.5-25  $\mu$ M, 24 h) exerts anti angiogenic effects by inhibiting hypoxia induced HIF-1 activation through COMMD1<sup>[3]</sup>.

### References:

- [1]. Fernández Massó JR, et al. The Antitumor Peptide CIGB-552 Increases COMMD1 and Inhibits Growth of Human Lung Cancer Cells. J Amino Acids. 2013;2013:251398.
- [2]. Gomez Rodriguez Y, et al. Synergic effect of anticancer peptide CIGB-552 and Cisplatin in lung cancer models. Mol Biol Rep. 2022 Apr;49(4):3197-3212.
- [3]. Daghero H, et al. The Anticancer Peptide CIGB-552 Exerts Anti-Inflammatory and Anti-Angiogenic Effects through COMMD1. Molecules. 2020 Dec 31;26(1):152.
- [4]. Vallespi MG, et al. Antitumor efficacy, pharmacokinetic and biodistribution studies of the anticancer peptide CIGB-552 in mouse models. J Pept Sci. 2014 Nov;20(11):850-9.

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