# Latikafusp

**Cat. No.:** HY-P99687

**CAS No.:** 2552814-07-8

**Target:** PD-1/PD-L1

**Pathway:** Immunology/Inflammation

**Storage:** Please store the product under the recommended conditions in the Certificate of Analysis.

## BIOLOGICAL ACTIVITY

**Description**

Latikafusp (AMG 256) is a bifunctional fusion protein comprising a PD-1-targeting antibody and IL-21 mutein designed to deliver IL-21 pathway stimulation to PD-1+ cells. Latikafusp is designed to prime and extend the activity of cytotoxic and memory T cells and induce anti-tumor immunity. Latikafusp has the potential for solid tumors research[1][2].Latikafusp may lead to the development of immunogenicity-mediated responses[3].

**In Vivo**

Latikafusp (5 mg/kg; administered on days 1 and 15; i.v.) induces significant immunogenicity and hypersensitivity in cynomolgus monkeys[3].

Latikafusp (10, 30 mg/kg; Weekly doses over three weeks; i.v.) activates both classical and alternative complement pathways [3].

Latikafusp (10, 30 mg/kg; Weekly doses over three weeks; i.v.) causes cynomolgus monkeys in all dose groups to show strong antibody responses, suggesting that the drug has high immunogenicity[3].

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

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| Animal Model: | Cynomolgus monkeys [3] |
| Dosage: | 5 mg/kg; administered on days 1 and 15 |
| Administration: | i.v. |
| Result: | Elicited a strong immunogenic response in all animals, as evidenced by the presence of anti-Latikafusp IgG antibodies on days 15 and 25 following the initial dose administration. Compared to the 22D4 group alone, the antibody response was significantly higher. |

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| Animal Model: | Cynomolgus monkeys [3] |
| Dosage: | 10, 30 mg/kg; Weekly doses over three weeks |
| Administration: | i.v. |
| Result: | Induced the development of anti-Latikafusp IgG antibodies in all animals by day 19, demonstrating a strong immune response to the therapeutic protein.<br>Administration in high doses led to severe adverse reactions and immunogenic complications, underscoring critical safety concerns associated with its use. |

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| Animal Model: | Cynomolgus monkeys [3] |
| Dosage: | 0, 6, 30, or 150 mg/kg; Weekly doses over four weeks |
| Administration: | i.v. |
| Result: | At the highest dose of 150 mg/kg, caused severe clinical signs in animals, including weakness, petechiae, hypothermia, and dehydration, which led to the unscheduled euthanasia of several animals.<br>Additionally, at high doses was linked to immunogenicity-related complications, such as thrombocytopenia and consumptive coagulopathy. |

## REFERENCES


[1]. Greg Durm, et al. Abstract CT205: Design and rationale of a phase 1 study evaluating AMG 256, a novel, targeted, PD-1 antibody x IL-21 mutein bifunctional fusion protein, in patients with advanced solid tumors. Clin Cancer Res. 2022 Apr 1;28(7):1294-1301.

[2]. Gregory Durm, et al. 417 Design and rationale of a phase 1 study evaluating AMG 256, a novel, targeted, IL-21 receptor agonist and anti-PD-1 antibody, in patients with advanced solid tumors. Journal for ImmunoTherapy of Cancer, 2020, 8(Suppl 3).

[3]. Kroenke Met al. Translatability of findings from cynomolgus monkey to human suggests a mechanistic role for IL-21 in promoting immunogenicity to an anti-PD-1/IL-21 mutein fusion protein. Front Immunol. 2024 Jan 26;15:1345473.





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