Tebentafusp

Cat. No.:	HY-P99339
CAS No.:	1874157-95-5
Target:	Interleukin Related; TNF Receptor
Pathway:	Immunology/Inflammation; Apoptosis
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.

BIOLOGICAL ACTIVITY

Description	Tebentafusp (IMCgp100) is a bispecific fusion protein to target gp100 peptide-HLA-A*02:01 (a melanoma-associated antigen). Tebentafusp guides T cells to kill gp100-expressing tumor cells via a high affinity T-cell receptor (TCR) binding domain and an anti-CD3 T-cell engaging domain. Tebentafusp leads to inflammatory cytokines and cytolytic proteins production, resulting in the direct lysis of tumour cells[1][2].
In Vitro	Tebentafusp is an ImmTAC recognizing a peptide derived from the melanoma-specific protein, gp100, presented by HLA-A*0201[3]. Tebentafusp (31 pM, 82 pM, and 131 pM; 16 h) stimulates cytotoxic degranulation activity of PBMC against Mel526 cells rather than gp100-negative A375 cells[3]. Tebentafusp (100 pM; 0-50 h) mediates $CD8^+$ T cell killing despite the presence of regulatory T cells via monitoring caspase 3/7 activation during 40-48 hr[3]. Tebentafusp (100 pM; 0-80 h) triggers cytolysis of melanoma cells by $CD4^+$ T cell subpopulations[3]. Tebentafusp (1, 12, 31, 82, and 131 pM; 24 h or 96 h) increases granzyme B amount, and induces broad cytokine and chemokine release including in both $CD4^+$ and $CD8^+$ cells[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Tebentafusp (10 μg/kg; i.v.) inhibits tumor growth in mouse melanoma model[4]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Middleton MR, et al. Tebentafusp, A TCR/Anti-CD3 Bispecific Fusion Protein Targeting gp100, Potently Activated Antitumor Immune Responses in Patients with Metastatic Melanoma. Clin Cancer Res. 2020 Nov 15;26(22):5869-5878.

[2]. Dhillon S. Tebentafusp: First Approval. Drugs. 2022 Apr;82(6):703-710.

[3]. Boudousquie C, et al. Polyfunctional response by ImmTAC (IMCgp100) redirected CD8+ and CD4+ T cells. Immunology. 2017 Nov;152(3):425-438.

[4]. Baeuerle P A, et al. Passive immunotherapy by T cell–engaging bispecifi c antibodies[M]//Cancer Vaccines. CRC Press, 2015: 266-278.

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

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