# Patritumab

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| **Cat. No.:** | HY-P99275 |
| **CAS No.:** | 1262787-83-6 |
| **Target:** | EGFR; Akt; ERK; PARP; Survivin |
| **Pathway:** | JAK/STAT Signaling; Protein Tyrosine Kinase/RTK; PI3K/Akt/mTOR; MAPK/ERK Pathway; Stem Cell/Wnt; Cell Cycle/DNA Damage; Epigenetics; Apoptosis |
| **Storage:** | Please store the product under the recommended conditions in the Certificate of Analysis. |

## BIOLOGICAL ACTIVITY

**Description**

Patritumab (Human Anti-ERBB3 Recombinant Antibody) is a neutralizing monoclonal antibody to ERBB3. Patritumab shows a synergy with Cetuximab (HY-P9905), potently inhibits the phosphorylation of EGFR, HER2, HER3, ERK, and AKT. Patritumab also induces cell apoptosis and suppresses the growth of pancreatic, non-small cell lung cancer, and colorectal cancer xenograft tumors[1].

**In Vitro**

Patritumab targets to the extracellular domain (ECD) of HER3 and (10 μg/mL; 5 d) induces DiFi-HRG4 cells apoptosis[1].
Patritumab (10 μg/mL; 6 h) markedly inhibits the phosphorylation of HER3 and AKT, without affecting that of ERK, in DiFi-HRG4 cells[1].
Patritumab (10 μg/mL; 48 h) also induces the cleavage of PARP accompanied with both up-regulation of BIM and down-regulation of survivin expression[1].

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

Western Blot Analysis[1]

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| Cell Line: | DiFi-HRG cells |
| Concentration: | 10 μg/mL |
| Incubation Time: | 6 hours |
| Result: | Inhibited the phosphorylation of HER3 and AKT as well as down-regulated survivin expression. |

**In Vivo**

Patritumab (1 mg/mouse; i.p.; twice a week for 4 weeks) combines with 1 mg Cetuximab and restores Cetuximab sensitivity in DiFi-HRG tumor xenografts model in mice[1].
Heregulin produced by colorectal cancer tumors harboring wild-type KRAS induces Cetuximab resistance, and that combination therapy with cetuximab and patritumab overcomes such resistance in vivo[1].

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

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| Animal Model: | Female athymic nude mice (BALB/c; 5-6 weeks old) with DiFi-Mock1 or DiFi-HRG4 (s.c.)[1] |
| Dosage: | 1 mg/body |
| Administration: | Intraperitoneal injection; twice a week for 4 weeks |

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| Result: | Individual Patritumab treatment had little effect on the growth of tumors formed by either cell line.<br>Combination of Cetuximab and Patritumab induced substantial regression of DiFi-HRG4 xenografts. |

## CUSTOMER VALIDATION

- Clin Cancer Res. 2024 Feb 2.

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## REFERENCES

[1]. Kawakami H, et al. The anti-HER3 antibody patritumab abrogates cetuximab resistance mediated by heregulin in colorectal cancer cells. Oncotarget. 2014 Dec 15;5(23):11847-56.



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