PRODUCT INFORMATION

EGFRvIII Peptide (trifluoroacetate salt)

Item No. 38846

Formal Name: L-leucyl-L-α-glutamyl-L-α-glutamyl-L-lysyl-L-lysylglycyl-L-asparaginyl-L-tyrosyl-L-valine, trifluoroacetate salt

Synonyms: Epidermal Growth Factor Receptor Variant III Peptide, $P_{EGFRvIII}$ (9-mer)

MF: $C_{48}H_{78}N_{12}O_{16} \bullet XCF_3COOH$

FW: 1,079.2

Purity: ≥98%

Supplied as: A solid

Storage: -20°C

Stability: ≥4 years

H—Leu—Glu—Glu—Lys—Lys—Gly—Asn—Tyr—Val—OH

• XCF_3COOH

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

EGFRvIII peptide (trifluoroacetate salt) is supplied as a solid. A stock solution may be made by dissolving the EGFRvIII peptide (trifluoroacetate salt) in the solvent of choice, which should be purged with an inert gas. EGFRvIII peptide (trifluoroacetate salt) is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of EGFRvIII peptide (trifluoroacetate salt) in these solvents is approximately 10 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of EGFRvIII peptide (trifluoroacetate salt) can be prepared by directly dissolving the solid in aqueous buffers. The solubility of EGFRvIII peptide (trifluoroacetate salt) in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

EGFRvIII peptide is a synthetic peptide that corresponds to the fusion junction of EGFRvIII, a tumor-specific, constitutively active variant of EGFR that lacks amino acids 6-273 of wild-type EGFR.[1,2] It binds to MHC class I subtype HLA-A*0201-positive T2 cells when used at a concentration of 25 µg/ml.[1] EGFRvIII peptide induces antigen presentation in dendritic cells derived from isolated human peripheral blood mononuclear cells (PBMCs), which stimulates activation of, and IFN-γ production by, $CD8^+$ cytotoxic T lymphocytes. Immunization with EGFRvIII peptide (15 µg/animal), in combination with the toll-like receptor 5 (TLR5) agonist flagellin B, increases the number of $CD8^+$ T cells and decreases the number of regulatory T cells (Tregs) in the brain, reduces tumor volume, and increases survival rate in an orthotopic GL261 glioblastoma mouse xenograft model.[2]

References

1. Wu, A., Xiao, J., Anker, L., *et al.* Identification of EGFRvIII-derived CTL epitopes restricted by HLA A0201 for dendritic cell based immunotherapy of gliomas. *J. Neurooncol.* **76(1)**, 23-30 (2006).
2. Choi, J.M., Lim, S.-H., Liu, Z.-P., *et al.* Flagellin synergistically enhances anti-tumor effect of EGFRvIII peptide in a glioblastoma-bearing mouse brain tumor model. *BMC Cancer* **22(1)**, 986 (2022).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM