Peginterferon beta-1a

Cat. No.: HY-108790

CAS No.: 1211327-92-2

Target: Apoptosis

Pathway: Apoptosis

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

BIOLOGICAL ACTIVITY

Description

Peginterferon beta-1a (Peginterferon β-1a) is the first pegylated interferon beta-1a molecule. Peginterferon beta-1a induces cancer cells apoptosis and shows anti-tumor activities in nude mice models. Peginterferon beta-1a can be used for the research of cancer and multiple sclerosis (RMS)[1].

In Vitro

Peginterferon beta-1a (0.001-1000 ng/mL; 5 d) affects cell viability of SK-MEL-2, SK-MEL-5, MeWo and WM-266-4 tumor cells [1].

Peginterferon beta-1a (10, 100, and 1,000 ng/mL) induces cell apoptosis[1].

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

Cell Viability Assay[1]

Cell Line:	SK-MEL-1, SK-MEL-2, SK-MEL-5, MeWo and WM-266-4 tumor cell lines
Concentration:	0.001-1000 ng/mL
Incubation Time:	5 d
Result:	Inhibited the cell viability of SK-MEL-2, SK-MEL-5, MeWo and WM-266-4 tumor cells and showed an IC_{50} value of 2-3 ng/mL to WM-266-4 cells.

Western Blot Analysis[1]

Cell Line:	WM-266-4 cell line
Concentration:	10, 100 and 1000 ng/mL
Incubation Time:	24 h
Result:	Induced the cleavage of PARP, caspase-8, and -9, induction of TRAIL and phosphorylation of STAT1.

In Vivo

Peginterferon beta-1a (0.1-1.6 mg/kg; s.c. QW/BIW/TIW for 3-4 weeks) inhibits SK-MEL-1, A-375 melanoma and WM-266-4 melanoma cancer growth in xenografts nude mice[1].

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

Animal Model:	Nude mice with human SK-MEL-1 and A-375 melanoma xenografts[1]
Dosage:	0.1-1.6 mg/kg
Administration:	Subcutaneous injection; once/twice a week; for 3/4 weeks
Result:	Significantly inhibited SK-MEL-1 tumor growth at 0.4 mg/kg (QW; 3 w) and inhibited A-375 melanoma tumors at 1.6 mg/kg (BIW; 4 w).

Animal Model:	Nude mice with human WM-266-4 melanoma xenografts[1]
Dosage:	0.4-1.6 mg/kg
Administration:	Subcutaneous injection; 0.4-1.6 mg/kg; once/twice/three times a week for 4 w
Result:	The QW dose of 1.6 mg/kg and all doses given BIW and TIW induced tumor regression, with a 1.6 mg/kg QW dose induced significant tumor inhibition relative to 0.8 mg/kg QW.

REFERENCES

[1]. Boccia A, et al. Peginterferon Beta-1a Shows Antitumor Activity as a Single Agent and Enhances Efficacy of Standard of Care Cancer Therapeutics in Human Melanoma, Breast, Renal, and Colon Xenograft Models. J Interferon Cytokine Res. 2017 Jan;37(1):20-31.

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