

Epidermal growth factor (EGF)

Cat. No.:	HY-P1960	
CAS No.:	62253-63-8	
Sequence:	Asn-Ser-Asp-Ser-Glu-Cys-Pro-Leu-Ser-His-Asp-Gly-Tyr-Cys-Leu-His-Asp-Gly-Val-Cys-Met-Tyr-Ile-Glu-Ala-Leu-Asp-Lys-Tyr-Ala-Cys-Asn-Cys-Val-Val-Gly-Tyr-Ile-Gly-Glu-Arg-Cys-Gln-Tyr-Arg-Asp-Leu-Lys-Trp-Trp-Glu-Leu-Arg (Disulfide bridge: Cys6-Cys20; Cys14-Cys31; Cys33-Cys42)	Epidermal growth factor (EGF)
Sequence Shortening:	NSDSECLSHDGYCLHDGVCMYIEALDKYACNCVVGIGERCQYRDLKWWELR (Disulfide bridge: Cys6-Cys20; Cys14-Cys31; Cys33-Cys42)	
Target:	Apoptosis; Reactive Oxygen Species	
Pathway:	Apoptosis; Immunology/Inflammation; Metabolic Enzyme/Protease; NF-κB	
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.	

BIOLOGICAL ACTIVITY

Description	Epidermal growth factor (EGF) is the key regulatory factor in promoting cell survival. Epidermal growth factor (EGF) signaling pathways are related with apoptosis. Loss of Epidermal growth factor (EGF) leads to embryonic or perinatal lethality with abnormalities in multiple organs. Epidermal growth factor (EGF) can stimulate reactive oxygen species (ROS) production for a short period of time in cells. Epidermal growth factor (EGF) can be used to research development and cancer ^{[1][2]} .	
IC₅₀ & Target	Apoptosis, ROS ^{[1][2]} .	
In Vitro	Epidermal growth factor (EGF) (500 ng/mL; 0-20 min) can induce the production of ROS in A431 cells ^[1] . Epidermal growth factor (EGF)-induced tyrosine phosphorylation of various cellular proteins was completely blocked in A431 cells containing exogenous catalase ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.	
In Vivo	Epidermal growth factor (EGF) (Osmotic pump delivered over 8 days at 10 pg/day) exhibits a highly significant stimulatory effect on wound closure in male mice ^[3] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.	
	Animal Model:	C57BL6J and CBA mice (0.5-cm ² full-thickness back wound was cut out of the center of the back) ^[3]
	Dosage:	10 µg/day
	Administration:	Osmotic pump delivered over 8 days at 10 pg/day
	Result:	Exhibited a highly significant (P < 0.001) stimulatory effect on wound closure over 6 days in male mice.

CUSTOMER VALIDATION

- Oncogene. 2023 Oct 16.
- Oncol Rep. 2023 Aug;50(2):161.
- Thorac Cancer. 2023 Dec 21.

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REFERENCES

- [1]. Bae YS, et al. Epidermal growth factor (EGF)-induced generation of hydrogen peroxide. Role in EGF receptor-mediated tyrosine phosphorylation. J Biol Chem. 1997 Jan 3;272(1):217-21.
- [2]. Henson ES, Gibson SB. Surviving cell death through epidermal growth factor (EGF) signal transduction pathways: implications for cancer therapy. Cell Signal. 2006 Dec;18(12):2089-97.
- [3]. Niall M, Ryan GB, O'Brien BM. The effect of epidermal growth factor on wound healing in mice. J Surg Res. 1982 Aug;33(2):164-9.
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Caution: Product has not been fully validated for medical applications. For research use only.

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