

Cytokines

Human Recombinant Shh (C24II)

Sonic hedgehog

Catalog #	78065.1	10 µg
	78065	50 µg
	78065.2	1000 µg



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Product Description

Sonic hedgehog (Shh) is a member of the Hedgehog family of secreted signaling proteins that has a prominent role in patterning during early mammalian development (Ho & Scott). It is expressed during early embryogenesis in a variety of tissues (Finco et al.). During patterning of the central nervous system, Shh directly acts on cells to specify neural cell fates, regulates proliferation and survival of oligodendrocyte precursors and neural crest cells, and stimulates proliferation, differentiation and axon growth (Ho & Scott; Martí). Shh also regulates T cell differentiation and activation (Crompton et al.). Recombinant human Shh (C24II; rhShh) is a fully biologically active molecule.

Product Information

Alternative Names:	HHG-1, HLP3, HPE3, MCOPCB5, SMMCI, Sonic hedgehog, TPT, TPTPS
Accession Number:	Q15465
Amino Acid Sequence:	IIGPGRGFGK RRHPKLTPL AYKQFIPNVA EKTLGASGRY EGKISRNSER FKELTPNYNP DIIFKDEENT GADRLMTQRC KDKLNALAIS VMNQWPGVKL RVTEGWDEDG HHSEESLHYE GRAVDITSD RDRSKYGM RLAVEAGFDW VYYESKAHIH CSVKAENSVAKSGG
Predicted Molecular Mass:	19.7 kDa
Species:	Human
Cross Reactivity:	Mouse
Formulation:	Lyophilized after dialysis against phosphate-buffered saline.
Source:	E. coli

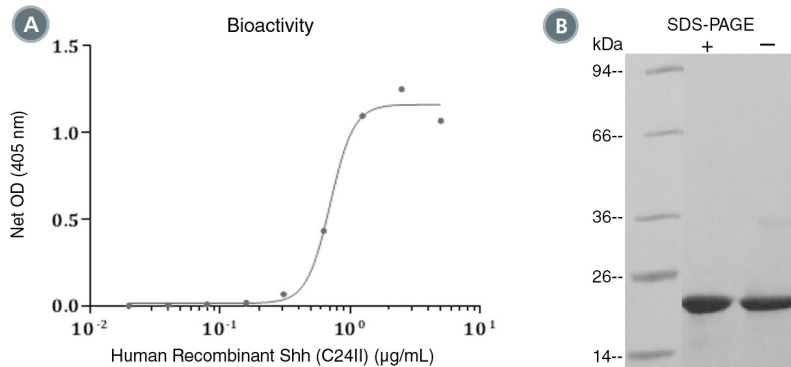
Specifications

Activity:	The specific activity is ≥ 500 units/mg ($EC_{50} \leq 2$ µg/mL) as is determined by inducing alkaline phosphatase production of C3H/10T1/2 (CCL-226) cells.
Purity:	$\geq 95\%$
Endotoxin Level:	Measured by kinetic Limulus amoebocyte lysate (LAL) analysis and is ≤ 0.2 EU/µg protein.

Preparation and Storage

Storage:	Store at -80°C.
Stability:	Stable as supplied for 12 months from date of receipt.
Preparation:	Centrifuge vial before opening. Reconstitute the product in sterile water to at least 0.1 mg/mL by pipetting the solution down the sides of the vial. Do not vortex. As a general guide, do not store at 2 - 8°C for more than 2 weeks or at -20°C for more than 3 months. Avoid repeated freeze-thaw cycles.

Data



(A) The biological activity of Human Recombinant Shh (C24II) was tested by its ability to promote alkaline phosphatase production of CCL-226 cells. Alkaline phosphatase production was measured using a fluorometric assay method. The EC₅₀ is defined as the effective concentration of the growth factor at which cell proliferation is at 50% of maximum. The EC₅₀ in the above example 0.7 µg/mL.

(B) 4 µg of Human Recombinant Shh (C24II) was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining. Human Recombinant Shh (C24II) has a predicted molecular mass of 19.7 kDa.

Related Products

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References

- Crompton T et al. (2007) Sonic hedgehog signalling in T-cell development and activation. *Nat Rev Immunol* 7(9): 726–35.
- Finco I et al. (2015) Hedgehog signaling and steroidogenesis. *Annu Rev Physiol* 77: 105–29.
- Ho KS & Scott MP. (2002) Sonic hedgehog in the nervous system: functions, modifications and mechanisms. *Curr Opin Neurobiol* 12(1): 57–63.
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