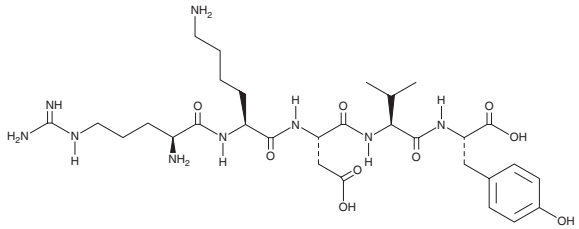
PRODUCT INFORMATION

Thymopentin

Item No. 30119

CAS Registry No.:	69558-55-0
Formal Name:	L-arginyl-L-lysyl-L-α-aspartyl-L-valyl-L-tyrosine
Synonyms:	RKDVY, Thymopoietin II (32-36), Thymopoietin Pentapeptide, TP5
MF:	$C_{30}H_{49}N_9O_9$
FW:	679.8
Purity:	≥98%
UV/Vis.:	λ_{max}: 226 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years



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

Laboratory Procedures

Thymopentin is supplied as a crystalline solid. A stock solution may be made by dissolving the thymopentin in the solvent of choice, which should be purged with an inert gas. Thymopentin is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of thymopentin in these solvents is approximately 1, 25, and 30 mg/ml, respectively.

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 thymopentin can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of thymopentin in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Thymopentin is a pentapeptide fragment of thymopoietin.[1] It induces prothymocyte differentiation in isolated mouse splenocytes when used at concentrations ranging from 0.018 to 18 µM. Thymopentin (1 µg/ml) increases proliferation of, and phytohemagglutinin-stimulated IL-2 production in, isolated human peripheral blood lymphocytes (PBLs).[2] It reduces the number of splenic autologous rosette-forming cells in athymic mice when administered at doses ranging from 0.02 to 10 mg/kg.[1] Adoptive cell transfer of splenocytes isolated from tumor-bearing mice administered thymopentin (100 ng/animal) reduces recipient tumor growth in a murine Lewis lung carcinoma model.[3]

References

1. Goldstein, G., Scheid, M.P., Boyse, E.A., *et al*. A synthetic pentapeptide with biological activity characteristic of the thymic hormone thymopoietin. *Science* **204(4399)**, 1309-1310 (1979).
2. Duchateau, J., Servais, G., Cooman, R., *et al*. In vitro influence of thymopentin on proliferative responses and phytohemagglutinin-induced interleukin 2 production in normal human lymphocyte cultures. *Surv. Immunol. Res*. **4(1)**, 116-124 (1985).
3. Lau, C.Y., Wang, E.Y., and Goldstein, G. Studies of thymopoietin pentapeptide (TP5) on experimental tumors *Cell Immunol*. **66(2)**, 217-232 (1982).

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