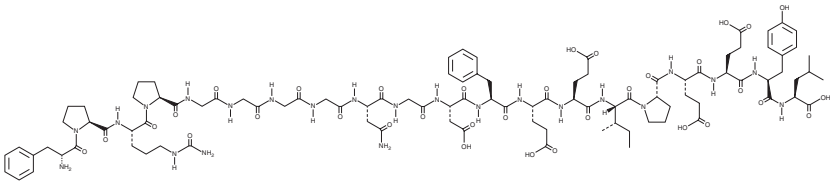
# PRODUCT INFORMATION

## Bivalirudin

*Item No. 23035*

**CAS Registry No.:** 128270-60-0
**Formal Name:** D-phenylalanyl-L-prolyl-L-arginyl-L-prolylglycylglycylglycylglycyl-L-asparaginylglycyl-L-α-aspartyl-L-phenylalanyl-L-α-glutamyl-L-α-glutamyl-L-isoleucyl-L-prolyl-L-α-glutamyl-L-α-glutamyl-L-tyrosyl-L-leucine
**MF:** $C_{98}H_{138}N_{24}O_{33}$
**FW:** 2,180.3
**Purity:** ≥98%
**UV/Vis.:** $\lambda_{max}$: 278 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

Bivalirudin is supplied as a crystalline solid. A stock solution may be made by dissolving the bivalirudin in the solvent of choice. Bivalirudin is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of bivalirudin in these solvents is approximately 30 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 bivalirudin can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of bivalirudin in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

Bivalirudin is an inhibitor of α- and ζ-thrombin ($K_i$s = 2.56 and 1.84 nM, respectively), enzymes that exhibit high fibrinogen-clotting activities.[1] It is selective for α- and ζ-thrombin, lacking activity at trypsin and γ-thrombin, which lacks clotting activity, at a >1,000-fold excess of bivalirudin. Bivalirudin inhibits α-thrombin-stimulated activation of the clotting factors Factor X, Factor V, and prothrombin in contact-activated plasma at a concentration of 0.1 µM.[2] Administration of bivalirudin (0.5-1.5 mg/kg, i.v.) reduces platelet deposition in a rat carotid endarterectomy model in a dose-dependent manner.[3] Formulations containing bivalirudin have been used to prevent ischemic events during angioplasty for thrombus-containing lesions.[4]

### References


1. Witting, J.I., Bourdon, P., Brezniak, D.V., *et al. Biochem J.* **283(Pt 3)**, 737-743 (1992).
2. Ofosu, F.A., Fenton, J.W., II, Maraganore, J.M., *et al. Biochem J.* **283(Pt 3)**, 893-897 (1992).
3. Hamelink, J.K., Tang, D.B., Barr, C.F., *et al. J. Vasc. Surg.* **21(3)**, 492-498 (1995).
4. Shah, P.B., Ahmed, W.H., Ganz, P., *et al. J. Am. Coll. Cardiol.* **30(5)**, 1264-1269 (1997).





**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