

RESEARCH MONOGRAPH . COMPOUND PROFILE

# Pentadeca Arginate (PDA)

*A research-grade arginate salt formulation of the pentadecapeptide BPC-157 sequence, formulated for improved aqueous stability and shelf life relative to acetate-salt parent.*

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## ABSTRACT

Pentadeca Arginate (PDA; the pentadecapeptide Gly-Glu-Pro-Pro-Pro-Gly-Lys-Pro-Ala-Asp-Asp-Ala-Gly-Leu-Val formulated as the arginate salt; the underlying peptide is identical to BPC-157, CAS 137525-51-0; molecular formula C<sub>62</sub>H<sub>98</sub>N<sub>16</sub>O<sub>22</sub> free peptide; molecular weight 1419.55 free peptide; the arginate salt adds counterions and is formulated for improved stability) is a research-grade alternative formulation of the BPC-157 pentadecapeptide that has emerged in research-grade peptide vendor catalogs in 2023 to 2024 as a stabilized analog. The pharmacological argument is that the arginate counterion improves aqueous solubility and extends shelf life of the lyophilized solid relative to acetate-salt BPC-157, which is the standard formulation; the underlying peptide sequence and pharmacology are identical, and any differences between PDA and BPC-157 in vivo are attributable to formulation rather than to a different molecule. The published preclinical record on the BPC-157 sequence is summarized in the Kodiak BPC-157 monograph (KDC-MN-002): tendon and ligament healing, vascular reorganization, gastrointestinal mucosal protection, dopaminergic system modulation, broad rodent injury-recovery activity, with the limitation that the literature is dominated by the originating Sikiric group at the University of Zagreb. PDA has no independent published preclinical record beyond the parent BPC-157 work; vendor literature emphasizes formulation stability claims rather than novel pharmacology. Investigators should not assume that PDA differs pharmacologically from BPC-157 acetate; the choice between formulations should be made on stability and handling considerations. Reconstitution and dosing follow BPC-

157: bacteriostatic water for injection, refrigerated storage of reconstituted solution, parenteral administration at 250 to 500 mcg per dose. The compound is research-grade and not approved by any regulatory authority for human or veterinary use.

# 1. Compound Identification

**Pentadeca Arginate (PDA)** is described as arginate salt analog of bpc-157. A research-grade arginate salt formulation of the pentadecapeptide BPC-157 sequence, formulated for improved aqueous stability and shelf life relative to acetate-salt parent.

## 1.1 Class summary

Arginate salt analog of BPC-157

## 1.2 Subtitle

A research-grade arginate salt formulation of the pentadecapeptide BPC-157 sequence, formulated for improved aqueous stability and shelf life relative to acetate-salt parent.

## 2. Abstract

Pentadeca Arginate (PDA; the pentadecapeptide Gly-Glu-Pro-Pro-Pro-Gly-Lys-Pro-Ala-Asp-Asp-Ala-Gly-Leu-Val formulated as the arginate salt; the underlying peptide is identical to BPC-157, CAS 137525-51-0; molecular formula C<sub>62</sub>H<sub>98</sub>N<sub>16</sub>O<sub>22</sub> free peptide; molecular weight 1419.55 free peptide; the arginate salt adds counterions and is formulated for improved stability) is a research-grade alternative formulation of the BPC-157 pentadecapeptide that has emerged in research-grade peptide vendor catalogs in 2023 to 2024 as a stabilized analog. The pharmacological argument is that the arginate counterion improves aqueous solubility and extends shelf life of the lyophilized solid relative to acetate-salt BPC-157, which is the standard formulation; the underlying peptide sequence and pharmacology are identical, and any differences between PDA and BPC-157 in vivo are attributable to formulation rather than to a different molecule. The published preclinical record on the BPC-157 sequence is summarized in the Kodiak BPC-157 monograph (KDC-MN-002): tendon and ligament healing, vascular reorganization, gastrointestinal mucosal protection, dopaminergic system modulation, broad rodent injury-recovery activity, with the limitation that the literature is dominated by the originating Sikiric group at the University of Zagreb. PDA has no independent published preclinical record beyond the parent BPC-157 work; vendor literature emphasizes formulation stability claims rather than novel pharmacology. Investigators should not assume that PDA differs pharmacologically from BPC-157 acetate; the choice between formulations should be made on stability and handling considerations. Reconstitution and dosing follow BPC-157: bacteriostatic water for injection, refrigerated storage of reconstituted solution, parenteral administration at 250 to 500 mcg per dose. The compound is research-grade and not approved by any regulatory authority for human or veterinary use.

### 3. Mechanism of Action

Identical to BPC-157 (parent pentadecapeptide). Vascular reorganization through nitric oxide synthase modulation and VEGF receptor 2 engagement, tissue repair, gastrointestinal protection. The arginate counterion is a formulation choice and does not introduce new pharmacology.

The mechanistic profile described above represents the consensus position from peer-reviewed literature where available; for compounds with sparse formal characterization, this section reflects vendor-grade reports and structurally-related class pharmacology and should be interpreted with appropriate caution.

## 4. Pharmacokinetics and Routes of Administration

Pharmacokinetic data are summarized within the abstract for compounds with formal Phase 1 records. Compounds without published human pharmacokinetic studies are noted as such; investigators should treat the absence of data as a research limitation.

## 5. Reported Research Dose Ranges

Research-grade dosing parallels BPC-157: 250 to 500 mcg subcutaneous or intramuscular daily for tissue-injury research.

Doses are scaled from clinical use where the compound is approved as a medicine, from Phase 2/3 trials where development advanced, or from rodent dose-response data scaled by allometric assumptions where the compound has no human clinical record. Investigators should treat dose ranges from research-chemical-grade vendors as starting points for their own pharmacokinetic and tolerability characterization rather than validated dosing recommendations.

## 6. Sourcing and Quality Verification

Investigators should obtain analytical confirmation of identity (mass spectrometry; for peptides, additionally amino acid analysis or N-terminal sequencing) and purity (HPLC area-percent, ideally greater than 95 percent) on every lot. Vendor certificates of analysis vary in quality; third-party analytical confirmation through independent laboratories (e.g., Janoshik Analytical, Anabolic Lab) is the gold standard for research-grade peptides and small molecules.

For compounds with established pharmaceutical-grade marketing in any jurisdiction, sourcing from the marketed product (where legal and accessible) provides the highest quality assurance.

## 7. Reconstitution and Handling

Peptides should be reconstituted in bacteriostatic water or sterile water for injection in the volume appropriate to the desired concentration; lyophilized peptides should be allowed to come to room temperature before reconstitution to minimize precipitation. Reconstituted peptides should be stored refrigerated and used within the timeframe specified by the manufacturer (typically 14 to 30 days for bacteriostatic water reconstitutions, shorter for sterile water).

Small molecules: storage conditions vary by compound; consult the certificate of analysis for the specific product. Most are stable at room temperature in dry, dark conditions; oxidation-sensitive compounds (e.g., catecholamine precursors) require cool storage and protection from light.

## 8. Stack Interaction Considerations

Investigators combining this compound with other research substances should consider receptor-level interactions (additive effects at shared targets), enzyme-level interactions (CYP-mediated drug-drug interactions where applicable), and pharmacodynamic interactions (additive sedation, additive serotonergic activity, additive hemodynamic effects).

The stack interaction section in published monographs of well-characterized compounds is necessarily incomplete for any specific combination; investigators should treat novel combinations with elevated caution and titrate gradually.

## 9. References

1. Sikiric P, et al. Stable gastric pentadecapeptide BPC 157 in clinical trials as a therapy. Curr Pharm Des 2014.
2. Sikiric P, et al. Therapy effect of the stable gastric pentadecapeptide BPC 157 on different tissue healing. Curr Pharm Des 2018.
3. Chang CH, et al. Pentadecapeptide BPC 157 in tendon repair. J Orthop Res 2014.

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*This monograph is provided for research use only. Not for medical, diagnostic, or therapeutic purposes. Not for human consumption. Compound class generalizations are noted where compound-specific data are sparse; investigators should weight the evidence accordingly.*