

RESEARCH MONOGRAPH . COMPOUND PROFILE

P21

(Cerebrolysin-derived peptide)

A short peptide derived from a cerebrolysin fraction with documented hippocampal neurogenesis activity in animal models.

DOCUMENT	KDC-MN-124
ISSUED	2026-05-09
REVISION	1.0
AUTHOR	Kodi <i>ac</i> bio <i>l</i> abs Research
COMPOUND CLASS	CNTF-derived neurogenic peptide

RESEARCH USE ONLY

ABSTRACT

P21 is a peptide of the sequence Ala-Asp-Asn-Phe-Val-Phe-Lys derived from the active fraction of cerebrolysin (or related neurotrophic preparations) and identified by Khalid Iqbal's group at the New York State Institute for Basic Research. The compound stimulates neurogenesis in the dentate gyrus through a CNTF-receptor-related mechanism, producing dose-dependent improvements in spatial learning and memory in rodent models of cognitive aging and Alzheimer disease pathology. The compound has not been advanced to human clinical trials. Pharmacokinetics are poorly characterized in humans. The compound is sold as a research peptide; investigational doses parallel cerebrolysin range scaled to peptide content.

1. Compound Identification

P21 (Cerebrolysin-derived peptide) is described as cntf-derived neurogenic peptide. A short peptide derived from a cerebrolysin fraction with documented hippocampal neurogenesis activity in animal models.

1.1 Class summary

CNTF-derived neurogenic peptide

1.2 Subtitle

A short peptide derived from a cerebrolysin fraction with documented hippocampal neurogenesis activity in animal models.

2. Abstract

P21 is a peptide of the sequence Ala-Asp-Asn-Phe-Val-Phe-Lys derived from the active fraction of cerebrolysin (or related neurotrophic preparations) and identified by Khalid Iqbal's group at the New York State Institute for Basic Research. The compound stimulates neurogenesis in the dentate gyrus through a CNTF-receptor-related mechanism, producing dose-dependent improvements in spatial learning and memory in rodent models of cognitive aging and Alzheimer disease pathology. The compound has not been advanced to human clinical trials. Pharmacokinetics are poorly characterized in humans. The compound is sold as a research peptide; investigational doses parallel cerebrolysin range scaled to peptide content.

3. Mechanism of Action

CNTF-receptor-related neurogenesis stimulant in dentate gyrus.

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

Sparse human data; rodent doses approximately 40 nmol/kg.

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. Iqbal K, et al. Identification of a peptide P21 with neurogenic activity. J Alzheimers Dis 2012.

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.