

RESEARCH MONOGRAPH . COMPOUND PROFILE

Davunetide (NAP)

An eight-amino-acid fragment of activity-dependent neuroprotective protein (ADNP) studied in tauopathies and PSP.

DOCUMENT	KDC-MN-125
ISSUED	2026-05-09
REVISION	1.0
AUTHOR	Kodiac bioLabs Research
COMPOUND CLASS	ADNP-derived octapeptide

ABSTRACT

Davunetide (NAP, AL-108; Asn-Ala-Pro-Val-Ser-Ile-Pro-Gln; CAS 173308-60-2; molecular weight 824.94) is an octapeptide derived from activity-dependent neuroprotective protein (ADNP). The peptide preserves microtubule integrity and reduces tau pathology in animal models of tauopathy. Davunetide was developed by Allon Therapeutics and advanced through Phase 2/3 trials in progressive supranuclear palsy (PSP); the pivotal trial in 2012 was negative for the primary cognitive endpoint, ending the development program. The compound is administered intranasally (the primary route of delivery to CNS for the formulation used in trials). Research-grade doses are 5 to 30 mg intranasally per day.

1. Compound Identification

Davunetide (NAP) is described as adnp-derived octapeptide. An eight-amino-acid fragment of activity-dependent neuroprotective protein (ADNP) studied in tauopathies and PSP.

1.1 Class summary

ADNP-derived octapeptide

1.2 Subtitle

An eight-amino-acid fragment of activity-dependent neuroprotective protein (ADNP) studied in tauopathies and PSP.

2. Abstract

Davunetide (NAP, AL-108; Asn-Ala-Pro-Val-Ser-Ile-Pro-Gln; CAS 173308-60-2; molecular weight 824.94) is an octapeptide derived from activity-dependent neuroprotective protein (ADNP). The peptide preserves microtubule integrity and reduces tau pathology in animal models of tauopathy. Davunetide was developed by Allon Therapeutics and advanced through Phase 2/3 trials in progressive supranuclear palsy (PSP); the pivotal trial in 2012 was negative for the primary cognitive endpoint, ending the development program. The compound is administered intranasally (the primary route of delivery to CNS for the formulation used in trials). Research-grade doses are 5 to 30 mg intranasally per day.

3. Mechanism of Action

Microtubule stabilization through ADNP-related mechanism; reduces tau pathology in tauopathy models.

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

5 to 30 mg intranasal per day.

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. Boxer AL, et al. Davunetide in patients with progressive supranuclear palsy: a randomised, double-blind, placebo-controlled phase 2/3 trial. Lancet Neurol 2014.

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.