

RESEARCH MONOGRAPH . COMPOUND PROFILE

Bromantane

A Soviet-developed adamantane derivative (Ladasten) approved in Russia for asthenia with mixed psychostimulant and anxiolytic effects.

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ABSTRACT

Bromantane (Ladasten; ADK-709; N-(2-adamantyl)-N-(p-bromophenyl)amine; CAS 87913-26-6; molecular formula $C_{16}H_{20}BrN$; molecular weight 306.24) is an adamantane derivative developed in the Soviet Union in the 1980s, originally for military applications (combat fatigue, cold tolerance). The compound is approved in Russia as Ladasten for asthenia and neurasthenia. Pharmacology is distinctive: bromantane combines mild dopaminergic activation (through enhanced dopamine synthesis rather than transporter inhibition or release) with anxiolytic effects through a non-GABAergic mechanism. The combination produces a clinical profile described as "actoprotective". improving physical and mental performance under stress without the rebound fatigue typical of stimulants or the sedation typical of anxiolytics. Bromantane is on the WADA prohibited list (banned in 1996). Pharmacokinetics: plasma half-life 9 to 12 hours; oral bioavailability good. Doses are 50 to 100 mg per day. Russian clinical literature is substantial; English-language randomized trials are limited.

1. Compound Identification

Bromantane is described as adamantane-derived adaptogen. A Soviet-developed adamantane derivative (Ladasten) approved in Russia for asthenia with mixed psychostimulant and anxiolytic effects.

1.1 Class summary

Adamantane-derived adaptogen

1.2 Subtitle

A Soviet-developed adamantane derivative (Ladasten) approved in Russia for asthenia with mixed psychostimulant and anxiolytic effects.

2. Abstract

Bromantane (Ladasten; ADK-709; N-(2-adamantyl)-N-(p-bromophenyl)amine; CAS 87913-26-6; molecular formula C₁₆H₂₀BrN; molecular weight 306.24) is an adamantane derivative developed in the Soviet Union in the 1980s, originally for military applications (combat fatigue, cold tolerance). The compound is approved in Russia as Ladasten for asthenia and neurasthenia. Pharmacology is distinctive: bromantane combines mild dopaminergic activation (through enhanced dopamine synthesis rather than transporter inhibition or release) with anxiolytic effects through a non-GABAergic mechanism. The combination produces a clinical profile described as "actoprotective" . improving physical and mental performance under stress without the rebound fatigue typical of stimulants or the sedation typical of anxiolytics. Bromantane is on the WADA prohibited list (banned in 1996). Pharmacokinetics: plasma half-life 9 to 12 hours; oral bioavailability good. Doses are 50 to 100 mg per day. Russian clinical literature is substantial; English-language randomized trials are limited.

3. Mechanism of Action

Mild dopaminergic activation through enhanced synthesis (not DAT inhibition).
Anxiolytic effects through non-GABAergic mechanism. Actoprotective profile.

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

50 to 100 mg 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. Vakhitova IV, et al. Bromantane mechanism of action and clinical pharmacology. Russian J Pharmacol 2000s.
2. Morozov IS, et al. Bromantane: an actoprotective drug. Russian Academy of Medical Sciences publications.

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.