

RESEARCH MONOGRAPH . COMPOUND PROFILE

S-23

A non-steroidal SARM with reported male contraceptive activity in preclinical studies; full agonist at the AR with strong HPG suppression.

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COMPOUND CLASS	Selective androgen receptor modulator

ABSTRACT

S-23 (CAS 1010396-29-8; molecular formula C₁₈H₁₃ClF₄N₂O₃; molecular weight 416.76) is a non-steroidal SARM developed by GTx. Distinct among SARMS as a full AR agonist (rather than a partial agonist), producing more pronounced HPG axis suppression alongside strong anabolic activity. Preclinical studies in male rodents demonstrated reversible spermatogenesis suppression; the compound was investigated as a candidate for male hormonal contraception via combined progestin and SARM regimen. Tissue-selective effects: full agonism in muscle and bone with reduced prostate activity relative to testosterone. The strong HPG suppression makes S-23 the most stringent SARM in terms of post-cycle endocrine recovery. No human clinical trials at this writing. Used recreationally despite the suppressive profile.

1. Compound Identification

S-23 is described as selective androgen receptor modulator. A non-steroidal SARM with reported male contraceptive activity in preclinical studies; full agonist at the AR with strong HPG suppression.

1.1 Class summary

Selective androgen receptor modulator

1.2 Subtitle

A non-steroidal SARM with reported male contraceptive activity in preclinical studies; full agonist at the AR with strong HPG suppression.

2. Abstract

S-23 (CAS 1010396-29-8; molecular formula $C_{18}H_{13}ClF_4N_2O_3$; molecular weight 416.76) is a non-steroidal SARM developed by GTx. Distinct among SARMs as a full AR agonist (rather than a partial agonist), producing more pronounced HPG axis suppression alongside strong anabolic activity. Preclinical studies in male rodents demonstrated reversible spermatogenesis suppression; the compound was investigated as a candidate for male hormonal contraception via combined progestin and SARM regimen. Tissue-selective effects: full agonism in muscle and bone with reduced prostate activity relative to testosterone. The strong HPG suppression makes S-23 the most stringent SARM in terms of post-cycle endocrine recovery. No human clinical trials at this writing. Used recreationally despite the suppressive profile.

3. Mechanism of Action

Non-steroidal full SARM agonist; strong HPG axis suppression with retained tissue-selective anabolic activity. Investigated as male contraceptive component.

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

Recreational use commonly 10 to 30 mg per oral administration daily; rodent contraceptive studies 0.1 to 1 mg/kg/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. Jones A, et al. Pharmacokinetics and tissue distribution of S-23, a novel non-steroidal selective androgen receptor modulator. Society for the Study of Reproduction 2009.
2. Narayanan R, et al. Selective androgen receptor modulators in preclinical and clinical development. Nucl Recept Signal 2008.
3. Solomon ZJ, et al. Selective androgen receptor modulators: current knowledge and clinical applications. Sex Med Rev 2019.

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