Review of Veerya (Potency): Classical Foundations and Contemporary Pharmacological Correlations

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Submission: 08.11.2025 Acceptance: 17.02.2026 Publication: 28.02.2026

Abstract

Veerya, the potency of dravyas, is pivotal in Ayurvedic pharmacology, primarily classified as ushna (hot) and sheeta (cold) in classical texts like Caraka Samhita, Susruta Samhita, and Asta ga Hrdaya. This review explores its relation to agonist/antagonist activity or stimulation/inhibition, focusing pharmacological actions of sheeta and ushna veerya.Critical analysis of classical texts (critical editions) and peer-reviewed studies from PubMed/Scopus (experimental/clinical, 2000–2026). Inclusion: studies correlating veerya with pharmacology; exclusion: non-peer-reviewed sources. Classical texts describe ushna veerya as pacifying vata-kapha, promoting digestion (deepana-pachana); sheeta veerya balances pitta, nourishes tissues. Experimental studies show ushna drugs reduce food conversion ratio (FCR) by 7–29%, indicating stimulation; sheeta shows inconsistent but nourishing effects. No direct agonist/antagonist link; veerya aligns with stimulation (ushna: metabolic activation) vs. inhibition (sheeta: anti-inflammatory). Ushna veerya correlates with stimulatory actions (e.g., digestive agonists), sheeta with inhibitory (e.g., cooling antagonists). Further clinical trials needed for validation. Veerya enhances drug selection in personalized Ayurveda.

Keywords :

Introduction

Ayurveda, the ancient Indian system of medicine, presents one of the earliest systematic frameworks for pharmacology grounded in empirical observation, clinical reasoning, and ontological principles. Classical Ayurvedic pharmacodynamics are explained through the Rasapancaka model—Rasa (taste), Guna (qualities), Veerya (potency), Vipaka (post-digestive transformation), and Prabhava (specific effect)[1–3]. Among these, **Veerya (Virya)** occupies a central position, functioning as the dynamic principle responsible for therapeutic action (karma). It determines the operational efficacy of a dravya (substance) beyond its sensory and qualitative attributes.

Caraka Samhita explicitly describes Veerya as the root cause of action: *"Yena kriyate sa kriya tad veeryam"* (that by which action is accomplished is termed veerya)[1]. Classical literature emphasizes two primary categories—**Usna Veerya (hot potency)** and **Sita Veerya (cold potency)**—which are derived from the Agni–Soma cosmological paradigm[2,3]. Usna is associated with transformation, digestion, mobilization, and kinetic activity, whereas Śita is associated with cooling, stabilization, nourishment, and conservation.

Caraka (Ci 26/42–43) states that Usna mitigates Vata and Kapha through digestive heat (pacana), while Sita alleviates Pitta through cooling effects[1]. Susruta Samhita (Su 46/105) and Astanga Hrdaya (Su 9/20) further elaborate classifications of Veerya (eight or more types), but prioritize the dual classification in clinical application[2,3].

Contemporary inquiries frequently attempt to interpret Veerya through modern pharmacological constructs such as stimulation/inhibition or agonist/antagonist mechanisms. However, such equivalence requires critical examination. This review synthesizes classical descriptions with peer-reviewed biomedical evidence to evaluate whether Veerya corresponds to receptor-level pharmacodynamics or reflects a broader systems-level pharmacological model.

Classical Concept of Veerya

Ontological Basis

Veerya manifests after Rasa but supersedes it in determining therapeutic action[1]. While Rasa indicates immediate sensory perception, Veerya determines physiological transformation. Commentators such as Cakrapani emphasize that when Rasa and Veerya conflict, Veerya predominates[4].

Caraka describes Usna Veerya producing:

- **Dahana** (heat production)
- **Pacana** (digestion)

- **Lekhana** (scraping/metabolic mobilization)
- **Svedana** (inducing perspiration)

Sita Veerya produces:

- **Brimhana** (anabolic nourishment)
- **Stambhana** (stabilization)
- **Daha-samana** (relief of burning)
- **Pitta-hara** effects[1]

Astavidha and Extended Classifications

Susruta discusses Astavidha Veerya, including categories like Balya (strengthening), Snehana (oleation), and others[2]. However, even in expanded taxonomies, Usna and Śita remain fundamental polarities. Astanga. Hrdaya integrates these concepts, emphasizing Usna in Kapha–Vata disorders and Sita in Pitta conditions[3].

Nagarjuna's Karma-Veeryavada proposes that potency must be inferred from action rather than taste alone[5]. Thus, Veerya represents functional pharmacodynamics in Ayurvedic logic.

Notably, classical texts do not employ terminology analogous to agonist or antagonist receptors. Instead, Veerya reflects systemic modulation of Doshas and Agni (metabolic fire).

Materials and Methods

Search Strategy

A structured literature review was conducted using PubMed, Scopus, and Web of Science (January 2000–February 2026). Search terms included:

- "Veerya Ayurveda pharmacology"
- "Ushna Sheeta virya experimental"
- "Rasapanchaka pharmacodynamics"
- "Agni metabolism Ayurveda"

Only peer-reviewed, indexed, English-language full-text studies were included.

Classical references were drawn from critical editions published by Chaukhambha Sanskrit Series and Oriental Publishers[1–3].

Inclusion Criteria

- Experimental animal studies correlating Veerya with metabolic or inflammatory parameters.
- Clinical studies demonstrating Ushna/Sheeta functional outcomes.
- Reviews addressing Ayurvedic pharmacodynamics.

Exclusion Criteria

- Non-indexed web articles.
- Opinion pieces without primary data.
- Non-peer-reviewed publications.

From 42 screened articles, 18 were included in qualitative synthesis.

Modern Pharmacological Correlations

Veerya and Pharmacodynamics

Modern pharmacology classifies drug action via receptor binding, agonism, antagonism, enzyme modulation, and signal transduction pathways[6]. Veerya, however, appears closer to **functional systems pharmacology** rather than receptor specificity.

Usna Veerya parallels:

- Thermogenesis
- Metabolic activation
- TRPV1 receptor stimulation (capsaicin-like effects)[7]
- Enhanced digestive enzyme secretion

Sita Veerya parallels:

- Anti-inflammatory cytokine reduction
- NF-κB inhibition[8]
- Sedative or anabolic activity

Gilca et al. proposed that extraoral taste receptors (T1R/T2R) mediate systemic responses beyond gustation, potentially linking Rasa–Veerya interactions to endocrine signaling[9]. Sweet taste receptors stimulate insulin-mTOR pathways—conceptually aligned with Brimhana (nourishment) of Śita Veerya.

Usna Veerya and Stimulation

Mane et al. demonstrated that Ushna drugs (Chitraka, Ativisha) reduced feed conversion ratio (FCR) in rats by 13–29%, indicating enhanced metabolic efficiency and digestive activation[10].

Piperine, an Ushna-classified compound, enhances drug bioavailability via inhibition of hepatic metabolism and intestinal glucuronidation[11,12].

Ginger (Zingiber officinale), classified as Ushna, activates TRPV1 channels and exhibits thermogenic and anti-inflammatory effects[7,13].

These findings support correlation with **metabolic stimulation**, though not strictly receptor agonism.

Sita Veerya and Inhibition

Curcumin (Sīta tendency in many classical interpretations) inhibits NF-κB, COX-2, and inflammatory cytokines [8,14]. Nardostachys jatamansi demonstrates sedative and neuroprotective effects via GABAergic modulation[15].

Vidari (Pueraria tuberosa), a Sita-Brimhana herb, demonstrates anabolic and galactagogue properties[16].

Such actions correspond to **functional inhibition of excessive transformation** and stabilization.

Experimental and Clinical Evidence

Animal Models

Mane et al. (2010) conducted metabolic studies on rats (n=42) comparing Ushna and Sheeta herbs. Ushna group showed reduced FCR and improved digestion, while Sheeta herbs promoted weight gain[10].

Other animal studies demonstrate that pungent Ushna substances activate sympathetic pathways, increasing thermogenesis[7].

Clinical Observations

Trisama, a compound with mixed Veerya properties, improves gastrointestinal motility in functional dyspepsia [17].

Ashwagandha (often classified as Ushna) modulates cortisol and improves metabolic resilience[18].

Sita herbs demonstrate clinical efficacy in inflammatory and hyperacidity disorders[14].

No clinical trial directly measures "agonist" activity under Veerya classification, indicating that mapping remains indirect.

Table 1: Veerya and Modern Pharmacological Correlations

Veerya	Classical Actions	Modern Observations
Usna	Pacana, Lekhana, Svedana	TRPV1 activation, thermogenesis, metabolic stimulation
Sita	Brimhana, Stambhana	Anti-inflammatory, mTOR activation, anabolic modulation

Table 2: Key Experimental Studies on Veerya

Study	Design	Findings
Mane et al., 2010[10]	Rat metabolic study	Ushna "!FCR 13–29%
Gilca et al., 2017[9]	Review	TR-mediated systemic effects
Aggarwal et al., 2009[8]	Molecular study	Curcumin inhibits NF-κB
Srinivasan, 2007[12]	Review	Piperine enhances bioavailability

Discussion

Evidence suggests:

1. **Veerya describes predominant biological tendency.**
2. **Usna correlates with metabolic activation.**
3. **Sita correlates with anti-inflammatory and anabolic stabilization.**
4. **Direct equivalence to agonist/antagonist is reductive.**
5. Veerya aligns with **network pharmacology**, not single-receptor action[6,19].

Herbal medicines act on multiple targets simultaneously[20]. Therefore, Veerya may represent a systems-level descriptor of overall metabolic bias.

Unlike β-blockers (clear antagonists), Sita Veerya does not always inhibit specific receptors but reduces excessive metabolic transformation contextually.

The holistic model integrates Prakrti (constitution), Rutu (season), and Agni status—factors absent in reductionist pharmacology.

Conclusions

Veerya represents a dynamic functional pharmacological principle central to Ayurvedic therapeutics. While Usna and Sita demonstrate translational parallels with metabolic stimulation and inflammatory inhibition, they cannot be confined to receptor-level agonism or antagonism. Instead, Veerya reflects systemic metabolic orientation consistent with modern systems pharmacology and network-based drug action.

Future research integrating metabolomics, transcriptomics, and pharmacodynamics may operationalize Veerya within evidence-based integrative medicine.

Source of Support: Nil

Conflict of Interest: Nil

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