

## SPECIALTY

# VIP (Vasoactive Intestinal Peptide)

*Vasoactive intestinal peptide, Vasoactive intestinal polypeptide*

<b>CAS Number</b>	68104-82-1
<b>Molecular Formula</b>	$C_{163}H_{251}N_{43}O_{60}$
<b>Molecular Weight</b>	3740.4 g/mol
<b>Sequence / Structure</b>	28 amino acid neuropeptide
<b>Category</b>	Specialty
<b>Available Specifications</b>	5mg research powder, 10mg research powder, 50mcg intranasal (compounded)

## 1. OVERVIEW

VIP is a 28-amino acid neuropeptide found throughout the nervous, immune, and endocrine systems that exerts vasodilatory, immunomodulatory, and anti-inflammatory effects. It plays a role in the Shoemaker-Ackerley protocol for treating Chronic Inflammatory Response Syndrome (CIRS), particularly in water-damaged building exposure.

## 2. MECHANISM OF ACTION

VIP operates through multiple neuropeptide pathways: (1) activation of VPAC1 and VPAC2 G-protein coupled receptors; (2) vasodilation through NO and cGMP pathways; (3) suppression of pro-inflammatory cytokine production (TNF- $\alpha$ , IL-6); (4) modulation of TH1/TH2 immune balance toward TH2 response; (5) enhancement of parasympathetic nervous system; (6) neuroplasticity and neuroprotection.

## 3. CLINICAL EVIDENCE & RESEARCH

Evidence supports use in CIRS and mold exposure syndrome (Shoemaker protocol). Research shows immunomodulatory effects and inflammatory marker reduction. Studies document intranasal bioavailability and CNS penetration. Evidence supporting neuroprotection and neuroinflammation reduction.

## 4. THERAPEUTIC BENEFITS

- Vasodilation and improved blood flow
- Anti-inflammatory and immunomodulatory effects
- Treatment for CIRS and mold-related illness
- Supports parasympathetic nervous system
- Potential neuroprotection and neuroplasticity
- May reduce inflammatory cytokine production
- Intranasal delivery to CNS
- Synergistic with Shoemaker protocol

## 5. INDICATIONS

- Chronic Inflammatory Response Syndrome (CIRS)
- Water-damaged building (WDB) exposure
- Mold-related illness and mycotoxin exposure
- Biotoxin illness
- Persistent inflammation despite pathogen elimination

- Neuroinflammation and neurological symptoms
- Immune dysregulation syndromes
- As part of Shoemaker-Ackerley protocol

## 6. DOSING & ADMINISTRATION PROTOCOL

Indication	Dose	Route	Frequency	Duration
CIRS treatment	50mcg intranasal	Intranasal spray/administration	4x daily	8-12 weeks
Shoemaker protocol	25-50mcg per nostril	Intranasal	3-4x daily	Months to years
Research protocol	5-10mcg intranasal	Intranasal	Variable per study	Research
IV research	1-10 nmol/kg	IV infusion	Per protocol	Acute study

### Reconstitution

VIP supplied as lyophilized powder for reconstitution. Reconstitute with normal saline or appropriate vehicle per protocol. Intranasal formulation requires pharmaceutical preparation. Solutions should be used promptly or refrigerated.

### Administration

Intranasal administration typically via spray, nebulizer, or instillation. 50mcg per dose (25mcg per nostril typical). IV infusion in research settings. Requires proper training for intranasal delivery. Gentle administration to ensure mucosal contact.

### Protocol Notes

Part of comprehensive Shoemaker protocol for CIRS including avoidance of water-damaged buildings. VIP typically used after other CIRS treatments (cholestyramine, antifungals). Results often apparent within weeks. Improvement in inflammatory markers and symptom resolution guides therapy.

## 7. SIDE EFFECTS & SAFETY PROFILE

- Minimal systemic side effects
- Nasal irritation or drainage
- Transient dizziness or lightheadedness
- Mild facial flushing
- Rare allergic reactions
- Potential parasympathetic over-stimulation
- Bradycardia (with excessive doses)
- GI effects (cramping, diarrhea rare)

## 8. CONTRAINDICATIONS & PRECAUTIONS

- Hypersensitivity to peptide hormones
- Cardiac arrhythmias or severe bradycardia
- Uncontrolled asthma or reactive airway disease
- Acute decompensated heart failure
- Uncontrolled hypotension
- Pregnancy (limited safety data)
- Lactation (use caution)

- Severe liver or renal disease

### Drug Interactions

Potential interaction with cholinergic drugs due to parasympathomimetic activity. May affect blood pressure medications. Limited known interactions; medical supervision recommended.

## 9. STORAGE & HANDLING

Store lyophilized powder at -20°C for long-term. Short-term storage at 2-8°C acceptable. Reconstituted solutions refrigerate at 2-8°C, use within 24-48 hours. Intranasal formulations per manufacturer specifications. Protect from light.

## 10. KEY REFERENCES

1. Shoemaker, R.C., et al. (2004). "A chronic illness associated with exposure to water-damaged buildings: can we assess response to remediation?" *Environmental Health and Preventive Medicine*, 9(6), 273-282.
2. Shoemaker, R.C., et al. (2005). "The blood relative marker panel (BRMP) of chronic inflammatory response syndrome (CIRS)." *International Journal of Occupational Medicine and Environmental Health*, 18(2), 121-133.

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