RonanRx
PERSONALIZED MEDICINE

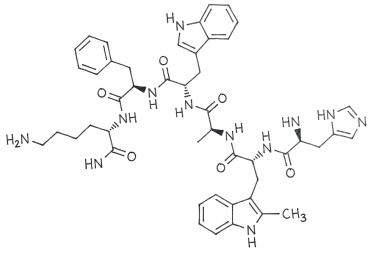
CLINICAL MONOGRAPH · GROWTH-HORMONE AXIS (UNDER FDA REVIEW)

Hexarelin

Hexapeptide GH secretagogue with case-by-case review

Hexarelin is a synthetic six-amino-acid peptide developed in the 1990s by an Italian pharmaceutical company (Mediolanum Farmaceutici) to stimulate growth hormone release from the pituitary [imbimbo1994; ghigo1994; howard1996]. It works through the same receptor used by the natural hormone ghrelin, and it was studied in small trials as a possible diagnostic tool for growth hormone deficiency and as a candidate growth hormone-axis therapy. Clinical development was not completed and no FDA-approved product exists.

Hexarelin has no FDA approval in the United States. This ingredient is part of an evolving FDA review process. Physicians may submit patient-specific prescription requests for pharmacy review. Availability is determined case by case, and availability may change after FDA review, PCAC discussion, final agency action, or state-board guidance.



EVIDENCE POSTURE | EMERGING | PRECLINICAL

REVIEWED **2026-05-11**

State-licensed 503A | Pharmacist reviewed | Doctor led | Cold-chain ready | Patient choice preserved

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FOR CLINICIANS

Hexarelin is a synthetic hexapeptide growth hormone secretagogue in the GHRP family (His-D-2-methyl-Trp-Ala-Trp-D-Phe-Lys-NH2), originally developed by Mediolanum Farmaceutici (Italy) in the early 1990s under the code MF-6003 [imbimbo1994] [fda503a_categories] [arvat1994]. It is a high-affinity agonist of the growth hormone secretagogue receptor type 1a (GHS-R1a), the pituitary and hypothalamic receptor later identified as the endogenous receptor for ghrelin [howard1996, smith1999], and a separate ligand at the scavenger receptor CD36 in cardiac and vascular tissue, a binding interaction that distinguishes hexarelin and other GHRP-family peptides from selective GHS-R1a agonists such as ipamorelin [bodart2002].

Acute human studies in the 1990s characterized hexarelin's GH-releasing pharmacology by intravenous, subcutaneous, intranasal, and oral routes in healthy adults [ghigo1994, imbimbo1994], compared its dynamic responses to those of GHRH [giustina1995_jendo, arvat1995, conley1995], and assessed its diagnostic utility for growth hormone deficiency in children and adults [fda503a_categories]. Aging, sex steroid status, glucocorticoid co-administration, and obesity were each shown to modulate the GH response [loche1997_repro; maghnie1998]. Hexarelin entered phase 2 evaluation but was not advanced through phase 3, and no manufactured product reached FDA approval [giustina1995_endocrres; grottoli1996; loche1995_jcem].

Hexarelin has no FDA approval in the United States. This ingredient is part of an evolving FDA review process. Physicians may submit patient-specific prescription requests for pharmacy review. Availability is determined case by case, and availability may change after FDA review, PCAC discussion, final agency action, or state-board guidance.

Why Personalized Hexarelin

The evidence base for hexarelin includes endocrine and exploratory cardiovascular research, but it has not matured into an FDA-approved product. The clinical record is too limited for broad consumer claims about performance, recovery, or aging.

Physicians may submit patient-specific prescription requests for hexarelin for pharmacy review. Certain preparations may be available now when clinically appropriate, lawfully prescribed, supported by patient-specific documentation, and approved by the dispensing pharmacy. Availability is determined case by case. This is not a consumer access promise; it is a clinical, sourcing, formulation, and regulatory review process. This ingredient is part of an evolving FDA review process for peptide-related bulk substances used in compounding.

Patient-specific pharmacy review keeps hexarelin requests attached to a prescriber, an identified patient, and a formulation decision rather than to a direct-to-consumer peptide protocol.

Quick Facts About Hexarelin

Category: Synthetic hexapeptide growth hormone secretagogue (GHRP family); dual GHS-R1a and CD36 ligand

Active ingredient: Hexarelin, His-D-2-methyl-Trp-Ala-Trp-D-Phe-Lys-NH2; a six-amino-acid synthetic peptide closely related to GHRP-6 and GHRP-2

Branded products: None. Hexarelin (originally Mediolanum Farmaceutici, Italy; investigational code MF-6003) was developed in the 1990s and did not reach FDA approval.

Evidence posture: Small phase 1 and phase 2 human studies of GH-releasing pharmacology and diagnostic use in growth hormone deficiency [imbimbo1994, ghigo1994, loche1995_jcem]; preclinical cardiac and CD36 biology [locatelli1999, bodart2002]. No phase 3 program. Discontinued in clinical development.

FDA-approval status: Category 2, evolving FDA review process. Valid patient-specific prescription required; supporting clinical rationale may be requested.

FDA bulks list status: Category 2, evolving FDA review process. Valid patient-specific prescription required; supporting clinical rationale may be requested.

RonanRx compounding status: Physicians may submit patient-specific prescription requests for pharmacy review. Availability is determined case by case.

WADA status: Category 2, evolving FDA review process. Valid patient-specific prescription required; supporting clinical rationale may be requested.

SPECIALS: PATIENT-SPECIFIC PRESCRIPTION ONLY

Physicians may submit patient-specific prescription requests for Hexarelin for pharmacy review. Certain preparations may be available now when clinically appropriate, lawfully prescribed, and approved by the dispensing pharmacy. Availability is determined case by case.

- **Made to order, not off a shelf.** No batch sits in a warehouse waiting for buyers. Your prescription triggers the prep.
- **Named-patient label.** The bottle carries one patient's name. The batch records carry one prescription.
- **Dose, strength, and route chosen for the patient.** A prescriber decides what gets compounded, not a manufacturer who set the strength for a trial population.
- **Licensed pharmacist on the hook.** A real person, with a license that can be pulled, signs off on every prep. State inspectors check the facility.
- **Compounded drugs are not FDA-approved.** They should not be evaluated using branded-drug trial data alone. Availability varies by state and prescribed medication.

How This Differs from a Research-Use-Only Website

A research-use-only website ships a vial from a warehouse. There is no prescription, no pharmacist, no facility inspection, and no way to recall the product if something is wrong with it. If the vial is mislabeled, contaminated, or under-potent, there is nobody whose license is at stake.

A 503A compounding pharmacy is the other thing. The doctor writes the prescription. A licensed pharmacist, whose name is on the label, prepares the medicine in a facility the state inspects. If something goes wrong, there is a person and a license on the hook, and a documented chain of custody on every lot. That accountability is what makes it safe.

What is Hexarelin?

Hexarelin is a synthetic hexapeptide with the sequence His-D-2-methyl-Trp-Ala-Trp-D-Phe-Lys-NH2. Structurally it is a close analog of growth hormone-releasing peptide-6 (GHRP-6), with a methylated tryptophan residue at position 2 that increases potency and metabolic stability. It was developed by Mediolanum Farmaceutici S.p.A. in Italy as compound MF-6003 [imbimbo1994] and is sometimes referred to in the older literature by that code or as 'Hex.'

Hexarelin was studied in the 1990s for two related purposes: as a candidate therapy for growth hormone deficiency (oral, intranasal, and parenteral formulations were investigated) and as a pharmacologic probe of the then-uncharacterized growth hormone secretagogue receptor [ghigo1994, imbimbo1994]. After the cloning of the GHS-R1a receptor by Howard and colleagues at Merck in 1996 [howard1996] and the discovery of its endogenous ligand ghrelin by Kojima and colleagues in 1999, hexarelin retained value primarily as a research tool. Phase 2 clinical development was not advanced to phase 3 and the compound has no FDA-approved indication.

Hexarelin is not commercially available as a manufactured drug product. Reference standard material is sold for analytical and research use. The compound is included on the WADA Prohibited List as a peptide hormone secretagogue and is detected in anti-doping urine screens that target the GHRP class [thevis2006, semenistaya2015, thomas2010].

How Hexarelin Works

Hexarelin binds and activates the growth hormone secretagogue receptor type 1a (GHS-R1a), a seven-transmembrane G-protein-coupled receptor expressed in the anterior pituitary somatotrope and in hypothalamic neurons, with downstream signaling through Gq/11, phospholipase C, inositol trisphosphate, and intracellular calcium release [howard1996, smith1999] [arvat1994]. The result in vivo is rapid pulsatile growth hormone release from the somatotrope, distinct from and complementary to the GHRH-mediated cAMP pathway [giustina1995_jendo, conley1995] [ghigo1996_aging].

Pituitary GH responses to hexarelin are potentiated when co-administered with GHRH, supporting a model in which hexarelin acts in part by augmenting GHRH tone and in part by directly stimulating the somatotrope [arvat1995, giustina1995_jendo] [grottoli1996]. Somatostatin opposes the response and explains a portion of the variability observed across populations and physiologic states [conley1995, torsello1996_rat]. Aging, obesity, glucocorticoid excess, and post-menopausal estrogen deficiency each attenuate the GH response, patterns characterized in the 1990s Turin, Sardinia, and Brescia centers and replicated across small cohorts.

A second and pharmacologically separable receptor interaction occurs at CD36, a scavenger receptor expressed on cardiomyocytes, macrophages, and microvascular endothelium [bodart2002]. CD36 binding by hexarelin and other GHRP-family peptides is implicated in cardiac and vascular effects observed in rat models, effects that occur independent of pituitary GH release and that are not reproduced by selective GHS-R1a agonists such as ipamorelin [locatelli1999, bodart2002, cao2006]. This receptor-level dual activity is the principal pharmacologic distinction between hexarelin and the selective GHS-R1a agonist class [giustina1995_endocrres; arvat1997; maccario1995].

Biological Role of Hexarelin

Growth hormone secretagogue receptor type 1a (GHS-R1a) is expressed in the anterior pituitary somatotrope, the hypothalamic arcuate nucleus, and several peripheral tissues. Its endogenous ligand is the acylated peptide hormone ghrelin, secreted primarily by the gastric oxyntic mucosa, which regulates pulsatile growth hormone release, appetite, and energy homeostasis [smith1999]. Synthetic ghrelin mimetics, including the GHRP-family peptides hexarelin, GHRP-6, GHRP-2, and ipamorelin, and the orally active non-peptide MK-677, bind GHS-R1a with affinities comparable to ghrelin and reproduce a subset of its central and peripheral effects.

Hexarelin's pharmacology is dual: it is an agonist at GHS-R1a and a separate ligand at the scavenger receptor CD36. CD36 is expressed on cardiomyocytes, monocyte-macrophages, microvascular endothelium, and adipocytes, and is implicated in long-chain fatty acid transport, oxidized-LDL handling, and innate immune signaling. The CD36 interaction at the heart is the principal pharmacologic distinction between hexarelin (and several other GHRP-family peptides) and the selective GHS-R1a agonist ipamorelin, which does not bind CD36 with comparable affinity [bodart2002, cao2006].

Detailed Mechanism of Hexarelin

GHS-R1a is a class A G-protein-coupled receptor identified through cloning work by Howard and colleagues at Merck in 1996 using a hexarelin-related ligand as the orphan-receptor probe [howard1996]. The receptor binds the endogenous octanoylated peptide ghrelin (identified by Kojima and colleagues in 1999) and several synthetic small-molecule and peptide agonists including hexarelin, GHRP-6, GHRP-2, ipamorelin,

and the orally active non-peptide MK-677 [smith1999] [cao2006]. Signaling proceeds principally through Gq/11 with downstream phospholipase C activation, IP3 generation, and somatotrope calcium mobilization; β-arrestin recruitment and Gi/o coupling occur to variable degrees across ligands and contribute to differences in functional selectivity.

In rat in vivo and pituitary cell models, Torsello and colleagues characterized hexarelin as a more potent and longer-acting GH-releasing peptide than GHRP-6, with activity at both pituitary and hypothalamic sites [torsello1996_rat]. In humans, the GH response to hexarelin is reproducibly larger than that to GHRH alone and is augmented by GHRH co-administration, consistent with a partly hypothalamic mechanism [giustina1995_jendo, arvat1995]. Glucocorticoids blunt the GH response, Giustina et al. 1995 demonstrated that hexarelin partially counteracts hydrocortisone-induced suppression of GH secretion in acromegaly, providing pharmacologic evidence for the somatostatin-opposed model [giustina1995_endocrres, conley1995].

Acute hexarelin administration also produces modest, dose-dependent rises in prolactin, ACTH, and cortisol secretion that are not observed (or are smaller) with selective GHS-R1a agonists such as ipamorelin and that are interpreted as reflecting either off-target hypothalamic action or partial GHS-R1a-independent effects [ciccarelli1996, maccario2002]. Repeated subcutaneous dosing in healthy adults attenuates the GH response over days to weeks (the GHRP-class desensitization phenomenon), although short-term intranasal or oral dosing in aging adults does not produce a comparable reduction across 1, 2 week schedules [ghigo1996_aging, maccario2002]. Thyrotropin and gonadotropin axes are not appreciably affected by acute hexarelin [arosio1998].

CD36 is a class B scavenger receptor with high affinity for thrombospondin, oxidized LDL, long-chain fatty acids, and, as Bodart and colleagues demonstrated in 2002, for hexarelin and structurally related GHRP-family peptides [bodart2002]. Cardiac CD36 binding by hexarelin is associated with reduced ischemia-reperfusion injury, preserved post-ischemic left-ventricular function, and modulation of cardiomyocyte inflammatory signaling in isolated rat heart and in vivo models. The cardiac CD36 mechanism is GH-independent: Locatelli and colleagues showed that hexarelin's protective effect on the post-ischemic isolated rat heart was preserved in hypophysectomized animals, dissociating the cardiac effect from pituitary GH release [locatelli1999] [rossoni2000; torsello2001]. None of this CD36-mediated cardiac biology has been replicated in completed phase 2 or phase 3 human cardiovascular efficacy trials with hexarelin.

Hexarelin Research History

Hexarelin (MF-6003) was developed at Mediolanum Farmaceutici (Milan, Italy) in the late 1980s and early 1990s as a more potent and metabolically stable analog of the prototype growth hormone-releasing peptide GHRP-6, by introduction of a 2-methyl substitution on the D-tryptophan at position 2 [giustina1995_endocrres; arvat1994]. The first human pharmacology was reported by Imbimbo, Mant, and

Edwards in 1994 in Eur J Clin Pharmacol as a dose-response study in healthy adult men, establishing dose-dependent GH release after intravenous and subcutaneous administration [imbimbo1994]. Ghigo, Arvat, and colleagues in Turin reported the comparative pharmacology of intravenous, subcutaneous, intranasal, and oral hexarelin in 1994 in J Clin Endocrinol Metab, establishing intranasal and (lower-bioavailability) oral routes as feasible [ghigo1994] [maccario1995; grottoli1996].

Through the mid-1990s a series of small mechanistic and population-level studies characterized: the synergy of hexarelin with GHRH and the opposing role of somatostatin [giustina1995_jendo, arvat1995, conley1995]; the metabolic, sex-steroid, glucocorticoid, and obesity modifiers of the GH response; reproducibility and sex-steroid effects in children [loche1997_repro]; diagnostic performance for growth hormone deficiency in children and in patients with hypothalamic-pituitary disease [loche1995_jcem, loche1995_short, maghnie1998]; and day-night patterns of GH responsiveness in normal adults [loche1997]. Short-term intranasal or oral dosing in human aging did not produce GHRP-class desensitization at the 1, 2 week scale [ghigo1996_aging]. The TRH-stimulated TSH response was not altered by hexarelin co-administration in normal men [arosio1998], distinguishing the GH-axis effect from broader anterior pituitary stimulation [arvat1997].

The receptor was cloned in 1996 by Howard and colleagues at Merck and named the growth hormone secretagogue receptor (GHS-R), the assay used hexarelin-related ligands [howard1996]. The endogenous ligand of GHS-R was identified by Kojima and colleagues in 1999 as the acylated peptide ghrelin, recasting the GHRP class, including hexarelin, as ghrelin mimetics [smith1999]. Concurrently, Locatelli and colleagues in Milan reported GH-independent cardioprotective effects of hexarelin in the rat in 1999 [locatelli1999], followed by Rossoni 2000 (isolated rat heart ventricular dysfunction) [rossoni2000], Torsello 2001 (calcium deprivation/replenishment injury) [torsello2001], and Bodart and colleagues in 2002 identifying CD36 as the mediating receptor in the heart [bodart2002]. Cao and colleagues reviewed the cardiac and vascular pharmacology of hexarelin and other GHRPs in 2006 [cao2006].

Phase 2 clinical development of hexarelin for growth hormone deficiency and for cardiac indications was not advanced to phase 3. No FDA-approved product reached market. The GH-secretagogue class subsequently moved toward the selective GHS-R1a agonist ipamorelin and the orally active small-molecule MK-677 (ibutamoren) for non-FDA-approved investigational use, and toward macimorelin (FDA-approved 2017) as a GHRH/secretagogue-based stimulation test for adult growth hormone deficiency. Hexarelin remained available only as a research-grade peptide and as a doping agent of concern: anti-doping methods for hexarelin and its metabolites in human urine were developed in the mid-2000s [thevis2006] and refined for screening assays in the 2010s [thomas2010, semenistaya2015, esposito2015].

Hexarelin Timeline

1994 • Imbimbo, Mant, and Edwards publish the first human dose-response study of hexarelin (Mediolanum MF-6003) in Eur J Clin Pharmacol [imbimbo1994]

1994 • Ghigo, Arvat, and colleagues (Turin) report comparative GH-releasing activity of intravenous, subcutaneous, intranasal, and oral hexarelin in JCEM [ghigo1994]

1994 • Arvat et al [arvat1994]. (JCEM) demonstrate that arginine and GHRH restore the blunted hexarelin GH response in elderly subjects

1995 • Conley et al [conley1995]. (Neuroendocrinology) characterize the involvement of GHRH and somatostatin in the mechanism of action of hexarelin and GHRP-6 in rats

1995 • Arvat et al [arvat1995]. (Neuroendocrinology) characterize modulation of the GH-releasing activity of hexarelin in man

1995 • Giustina et al [giustina1995_jendo; giustina1995_endocrres]. (J Endocrinol) compare hexarelin and GHRH on GH secretion; (Endocr Res) show hexarelin counteracts hydrocortisone-induced GH suppression in acromegaly

1995 • Loche et al [loche1995_jcem; loche1995_short]. (JCEM, two papers) report the GH-releasing activity of hexarelin in short normal and obese children and in GH-deficient patients, diagnostic use established at small scale

1995 • Maccario et al [maccario1995]. (Metabolism) characterize metabolic modulation (glucose, free fatty acids) of the hexarelin GH response in man

1996 • Howard, Feighner, and colleagues at Merck clone the growth hormone secretagogue receptor (GHS-R) using hexarelin-related ligands; published in Science [howard1996]

1996 • Torsello et al [torsello1996_rat]. (Eur J Endocrinol) characterize the mechanism of action of hexarelin in the rat, pituitary and hypothalamic sites of action

1996 • Ghigo et al [ghigo1996_aging]. (Eur J Endocrinol) show short-term intranasal or oral hexarelin does not desensitize GH responsiveness in aging adults

1996 • Grottoli et al [grottoli1996]. (Eur J Endocrinol) demonstrate that somatotrope responsiveness to hexarelin is refractory to glucose-induced inhibition in obesity

1996 • Ciccarelli et al [ciccarelli1996]. (Clin Endocrinol) show hexarelin stimulates prolactin secretion in acromegaly but not in hyperprolactinemia

1997 • Loche et al [loche1997]. (Clin Endocrinol) report that hexarelin stimulates GH secretion during day and night in normal men

1997 • Arvat et al [arvat1997]. (Eur J Endocrinol) report that oestrogen replacement does not restore the reduced GH-releasing activity of hexarelin in post-menopausal women

1997 • Loche et al [loche1997_repro]. (JCEM) report reproducibility and effect of sex steroids on the hexarelin GH response in children

1998 • Maghnie et al [maghnie1998]. (JCEM) characterize the hexarelin GH response in patients with different hypothalamic-pituitary abnormalities, diagnostic positioning vs GHRH-arginine

1998 • Arosio et al [arosio1998]. (J Endocrinol Invest) confirm that hexarelin does not alter the TRH-induced TSH response in normal adult men

1999 • Kojima and colleagues identify ghrelin as the endogenous ligand of GHS-R1a, reframing hexarelin and the GHRP class as ghrelin mimetics; Smith et al [smith1999]. (Horm Res) review GHS types and receptors

1999 • Locatelli et al [locatelli1999]. (Endocrinology) demonstrate GH-independent cardioprotective effects of hexarelin in the rat, preserved in hypophysectomized animals

2000 • Rossoni et al [rossoni2000]. (Pharmacol Res) show hexarelin protects the isolated rat heart from ventricular dysfunction produced by calcium-free perfusion

2001 • Torsello et al [torsello2001]. (Endocrine) report hexarelin (but not GH) protects heart from damage induced in vitro by calcium deprivation and replenishment

2002 • Bodart et al [bodart2002]. (Circ Res) identify CD36 as the receptor mediating cardiovascular actions of GHRP-family peptides including hexarelin, separable from GHS-R1a

2002 • Maccario et al [maccario2002]. (Eur J Endocrinol) characterize the impact of two or three daily subcutaneous injections of hexarelin on 24-h GH, prolactin, ACTH, and cortisol secretion

2006 • Cao et al [cao2006]. (Trends Endocrinol Metab) review the cardiovascular effects of ghrelin and synthetic GH secretagogues including hexarelin

2006 • Thevis et al [thevis2006]. (RCM) publish anti-doping detection methods for therapeutic GH secretagogue activity including hexarelin metabolites in urine

2010 • Thomas et al [thomas2010]. (Drug Test Anal) report identification of GHRP-2 in a nutritional supplement, highlighting non-clinical channels for the GHRP class

2015 • Semenistaya et al. (Drug Test Anal) characterize urinary metabolites of GHRP-1, GHRP-2, GHRP-6, hexarelin, and ipamorelin after nasal administration; Esposito et al [semenistaya2015; esposito2015]. (J Pept Sci) report in vitro metabolic models for sport drug testing

2024 • FDA places hexarelin in Category 2 of the 503A bulk drug substances list, under FDA review pending resolution of agency-identified concerns; RonanRx moves physician-submitted requests through patient-specific pharmacy review [fda503a_categories; fda503a]

Clinical Contexts for Hexarelin

Diagnosis of growth hormone deficiency (research/diagnostic use) EMERGING

Studied in small acute-stimulation trials in children and adults in the 1990s. Not adopted as a standard diagnostic stimulus; no FDA approval.

Hexarelin produced reproducible GH release at 1.5, 2 µg/kg subcutaneously or intravenously in normal adults and children. Loche et al. characterized the GH response in short normal and obese children and in hypopituitary patients [loche1995_jcem], and a separate paper compared GH-deficient and normal pediatric responses [loche1995_short]. Maghnie et al. characterized differential responses across organic hypothalamic-pituitary lesions vs idiopathic GHD [maghnie1998]. Reproducibility and sex-steroid modulation in pediatric populations were reported by Loche et al. [loche1997_repro]. Subsequent diagnostic practice moved to the GHRH-arginine and (FDA-approved 2017) macimorelin tests rather than hexarelin.

Treatment of growth hormone deficiency EMERGING

Investigated in small phase 1/2 studies; phase 3 development was not completed and no FDA-approved product exists.

Short-term subcutaneous, intranasal, and oral hexarelin produced dose-dependent GH release in healthy adults and in children with GH deficiency [imbimbo1994, ghigo1994, loche1995_short]. The Ghigo aging substudy demonstrated absence of GHRP-class desensitization across 1, 2 week intranasal and oral schedules in older adults [ghigo1996_aging]. Larger and longer trials of clinically meaningful endpoints (growth velocity in children, IGF-1 normalization, body composition in adults) were not completed and the compound did not progress to FDA approval. Selective GHS-R1a agonists (ipamorelin) and the orally active small-molecule MK-677 have since been the focus of investigational use in the GH-axis space.

Cardiac ischemia/reperfusion and post-ischemic ventricular dysfunction (preclinical only) PRECLINICAL

Preclinical only. Rat in vitro and in vivo evidence of GH-independent cardioprotection. Not studied in completed human cardiovascular trials.

In isolated rat heart and in vivo rat models, hexarelin produced preservation of post-ischemic left-ventricular function, reduction in infarct size, and modulation of cardiomyocyte injury markers [locatelli1999, rossoni2000, torsello2001]. The protective effect persisted in hypophysectomized animals, dissociating it from pituitary GH release [locatelli1999]. Bodart et al. identified CD36 as the cardiac receptor mediating these effects of GHRP-family peptides [bodart2002]. Cao et al. reviewed the cardiovascular pharmacology of ghrelin and synthetic GH secretagogues including hexarelin [cao2006]. No completed human cardiovascular efficacy or safety trial has tested these preclinical observations in patients.

FDA-Approved Uses of Hexarelin

Hexarelin has no FDA approval in the United States. This ingredient is part of an evolving FDA review process. Physicians may submit patient-specific prescription requests for pharmacy review. Availability is determined case by case, and availability may change after FDA review, PCAC discussion, final agency action, or state-board guidance.

Hexarelin is prohibited at all times in competitive sport under section S2 of the World Anti-Doping Agency Prohibited List (Peptide Hormones, Growth Factors, Related Substances and Mimetics) [wada_prohibited_2026]. Urinary detection methods for hexarelin and its metabolites are established as routine WADA-accredited laboratory practice [thevis2006, semenistaya2015].

Compounded Hexarelin (503A)

Physicians may submit patient-specific prescription requests for pharmacy review. For hexarelin, certain preparations may be available now when clinically appropriate, lawfully prescribed, and approved by the dispensing pharmacy. Availability is determined case by case and may depend on patient-specific documentation, ingredient status, source qualification, formulation feasibility, state requirements, and pharmacist judgment. The review starts with the evidence constraint: The evidence base for hexarelin includes endocrine and exploratory cardiovascular research, but it has not matured into an FDA-approved product. The clinical record is too limited for broad consumer claims about performance, recovery, or aging.

This ingredient is part of an evolving FDA review process. RonanRx is monitoring FDA's PCAC process and any subsequent agency action. This ingredient is part of an evolving FDA review process for peptide-related bulk substances used in compounding. Availability may change after FDA review, PCAC discussion, final agency action, or state-board guidance. For hexarelin, RonanRx ties that monitoring to the evidence limits described above and to any patient-specific documentation submitted by the prescriber.

Valid patient-specific prescription required. Supporting clinical rationale may be requested. Compounded medications are not FDA-approved. No consumer self-ordering, no office stock, no bulk dispensing. Requests for hexarelin are reviewed before any preparation is made or released. Patient-specific pharmacy review keeps hexarelin requests attached to a prescriber, an identified patient, and a formulation decision rather than to a direct-to-consumer peptide protocol.

Hexarelin Formulations and Routes

Form	Concentration	Description
No FDA-approved manufactured product	Not applicable	If a patient-specific hexarelin request is approved after pharmacy review, the route and formulation must be selected by the prescriber and dispensing pharmacy for that named patient. Research-use presentations sold online are not RonanRx preparations.

Routes used in published literature: subcutaneous, intravenous, intranasal, oral.

Hexarelin Dosing

Route	Population	Range	Duration	Study type
Intravenous bolus	Healthy adults (research/ diagnostic use, 1990s phase 1)	1.0, 2.0 µg/kg as a single bolus produces a reproducible GH peak within 30, 60 minutes	Single acute dose	Phase 1 human pharmacology (research)
Subcutaneous	Healthy adults and children (research)	1.5, 2.0 µg/kg as a single dose; repeated daily dosing studied at the same per-kg dose over 1, 2 weeks in aging and pediatric subpopulations	Single dose or 1, 2 weeks in research studies	Phase 1/2 human pharmacology (research)
Intranasal	Healthy adults and aging adults (research)	20 µg/kg approximately equipotent to 1.5, 2.0 µg/kg subcutaneous on the acute GH peak; bioavailability lower than parenteral routes	Single dose or 1, 2 weeks in research studies	Phase 1 human pharmacology (research)
Oral	Healthy adults (research)	Oral hexarelin was studied at higher doses than parenteral routes due to substantially lower bioavailability; comparative dose-equivalence was characterized in the 1994 JCEM route-comparison paper	Single dose or short-term in research studies	Phase 1 human pharmacology (research)

RonanRx does not publish a consumer dosing schedule for hexarelin. Any request requires a valid patient-specific prescription, supporting clinical rationale, and pharmacist review. Route, strength, dosing interval, monitoring expectations, and dispensing quantity would be determined case by case from the prescriber's documentation and pharmacy feasibility review.

Clinicians whose patients are using research-grade hexarelin obtained outside the regulated pharmacy supply chain should be aware that potency, identity, and sterility of such material are not characterized, and that doses cited in 1990s phase 1 studies cannot be safely extrapolated to material of unknown origin [imbimbo1994; ghigo1994; fda503a_categories].

Hexarelin Safety

Acute human safety data for hexarelin are limited to the small phase 1 and phase 2 cohorts published in the 1990s. In those studies, single-dose intravenous, subcutaneous, intranasal, and oral hexarelin at doses of approximately 1.5, 2.0 µg/kg parenteral or higher intranasal/oral were generally well tolerated in healthy adults and in children with growth hormone deficiency, with the most commonly reported acute effects being transient mild facial flushing, mild and brief somnolence, and a brief sensation of nasal irritation with intranasal dosing [12]. Repeated subcutaneous dosing over 1, 4 weeks produced acute attenuation of the GH response in some protocols, while short-term intranasal or oral dosing in aging adults did not produce comparable desensitization [1326].

Acute hexarelin administration produces modest dose-dependent rises in prolactin, ACTH, and cortisol secretion in addition to GH release [1626]. The TRH-induced TSH response is unaffected by hexarelin co-administration [19]. The long-term endocrine, metabolic, cardiovascular, and oncologic safety profile of hexarelin in humans has not been characterized in completed phase 3 trials. Preclinical cardiac data showing CD36-mediated effects [2522] have not been translated into completed human cardiovascular safety studies.

Because Physicians may submit patient-specific prescription requests for pharmacy review. Availability is determined case by case. Patients using research-grade hexarelin obtained outside the licensed pharmacy supply chain are exposed to material of uncharacterized identity, potency, sterility, and endotoxin content [32].

Contraindications

Hexarelin has no FDA-approved label and therefore no labeled contraindications. Investigational use in the 1990s typically excluded patients with active malignancy, uncontrolled cardiovascular or cerebrovascular disease, severe hepatic or renal impairment, active proliferative diabetic retinopathy, pregnancy or lactation, and known hypersensitivity to peptide preparations. These exclusions reflect general phase 1/2 GH-axis trial practice rather than a hexarelin-specific safety signal.

Hexarelin is prohibited at all times in competitive sport under WADA section S2; athletes subject to anti-doping testing should not use hexarelin in any form [1236].

Drug interactions

Hexarelin co-administered with GHRH augments the GH response above either agent alone [5][6]. Somatostatin and somatostatin analogs blunt the response [4]. Glucocorticoids (hydrocortisone) suppress the GH response; hexarelin partially counteracts this in acromegaly [7]. Insulin-induced hypoglycemia and arginine each modify the response in patterns characterized for the broader GHRP class [3][8]. Estrogen status in post-menopausal women does not appear to restore the age-attenuated response [17]. None of these are FDA-labeled interactions because hexarelin is not FDA-approved.

Drug-metabolizing enzyme interactions have not been formally characterized. Hexarelin is a small peptide cleared primarily by proteolysis and is not expected to be a substrate or inhibitor of cytochrome P450 enzymes.

Adverse events

Across the small 1990s phase 1 and phase 2 studies, predominantly single-center academic cohorts of healthy adults and pediatric patients with GH deficiency, adverse events reported with hexarelin were limited to transient mild facial flushing, brief somnolence, mild nasal irritation with intranasal dosing, and minor injection-site reactions with subcutaneous dosing [2][10]. Acute changes in prolactin, ACTH, and cortisol were of small magnitude and not labeled as clinically meaningful in the source papers [16][26]. No serious adverse events were reported in the phase 1 dose-response or comparative-route studies in healthy adults [1].

The cumulative human exposure base is small relative to FDA-approved peptide therapeutics, and long-term cardiovascular, metabolic, and oncologic outcome data are absent. Because Physicians may submit patient-specific prescription requests for pharmacy review. Availability is determined case by case.

Monitoring Hexarelin Therapy

No FDA-labeled monitoring schedule exists. Phase 1/2 research studies of hexarelin in adults and children measured serum GH every 15, 30 minutes for 90, 180 minutes after dosing and assessed prolactin, ACTH, cortisol, and IGF-1 as indicated [imbimbo1994; ghigo1994; loche1995_jcem]. The diagnostic-utility studies used 90-minute or 120-minute peak GH as the analytic endpoint [maccario2002].

Hexarelin in Special Populations

Hexarelin Evidence Quality

The human evidence base for hexarelin consists of approximately a dozen small phase 1 and phase 2 academic cohorts published between 1994 and approximately 2002, conducted predominantly at single Italian centers (Turin, Cagliari/Sardinia, Milan, Brescia), with sample sizes typically 6, 40 participants per

study [loche1995_short; maghnie1998; maccario2002]. Endpoints were short-term GH, prolactin, ACTH, and cortisol pharmacodynamics, and, in pediatric cohorts, diagnostic performance for growth hormone deficiency [imbimbo1994; ghigo1994; loche1995_jcem]. None of these studies were powered for clinical efficacy or long-term safety endpoints.

Mechanistic evidence is stronger. The Howard et al. cloning of GHS-R using hexarelin-related ligands [howard1996] and the subsequent identification of ghrelin as the endogenous ligand [smith1999] situate hexarelin within a well-characterized receptor system [locatelli1999]. The Bodart et al. identification of CD36 as the cardiac receptor for GHRP-family peptides [bodart2002] and the supporting preclinical cardioprotection literature establish a biologically plausible second mechanism of action. None of this cardiac biology has been translated into completed human cardiovascular efficacy trials [cao2006].

There is no phase 3 evidence for any clinical indication. No FDA-approved manufactured product exists. Physicians may submit patient-specific prescription requests for pharmacy review. Availability is determined case by case. This brief documents the available evidence for clinician awareness only and should not be interpreted as a clinical recommendation.

Major Hexarelin Clinical Studies

Study	Design	Participants	Duration	Finding
Imbimbo, Mant, Edwards (1994, Eur J Clin Pharmacol), first human dose-response	Phase 1, single-dose, dose-response of hexarelin in healthy adult men	—	Acute (90, 180 minute GH sampling)	Established dose-dependent GH release after intravenous and subcutaneous hexarelin; defined the 1.5, 2.0 µg/kg parenteral dose range used in subsequent academic studies [imbimbo1994]
Ghigo et al. (1994, J Clin Endocrinol Metab), route comparison	Phase 1 comparative pharmacology of intravenous, subcutaneous, intranasal, and oral hexarelin in healthy adults	—	—	Characterized relative bioavailability and acute GH-releasing potency across four routes; intranasal hexarelin produced reproducible GH release at ~10-fold the parenteral per-kg dose; oral bioavailability substantially lower [ghigo1994]
		—	—	Demonstrated attenuated GH response to hexarelin in

Study	Design	Participants	Duration	Finding
Arvat et al. (1994, J Clin Endocrinol Metab), elderly subjects	Phase 1 acute-stimulation study in elderly adults			older adults vs younger; arginine and GHRH co-administration restored the response [arvat1994]
Loche et al. (1995, J Clin Endocrinol Metab), children	Acute hexarelin stimulation in short normal children, obese children, and hypopituitary children	—	—	Hexarelin produced reproducible GH release across pediatric subgroups; characterized as a candidate diagnostic stimulus for pediatric GH deficiency [loche1995_jcem]
Loche et al. (1995, J Clin Endocrinol Metab), GH deficiency	Acute hexarelin stimulation in children with documented GH deficiency	—	—	Characterized the GH response in GH-deficient pediatric patients vs normal controls; supports diagnostic utility at small scale [loche1995_short]
Conley et al. (1995, Neuroendocrinology), mechanism in rat	Preclinical mechanistic study of hexarelin and GHRP-6 in rats, involving GHRH and somatostatin	—	—	Demonstrated that the GH response to hexarelin and GHRP-6 involves both endogenous GHRH and somatostatin pathways; supports the hypothalamic component of the mechanism [conley1995]
Howard et al. (1996, Science), GHS-R cloning	Molecular cloning of the growth hormone secretagogue receptor using hexarelin-related ligands as the orphan-receptor probe	—	—	Identified the 7-transmembrane GPCR (GHS-R1a) responsible for the pituitary and hypothalamic actions of hexarelin and the GHRP class; foundational paper for the field that subsequently identified ghrelin as the endogenous ligand [howard1996]
Maghnie et al. (1998, J Clin Endocrinol Metab),	Acute hexarelin stimulation across patients with different	—	—	Differential GH response patterns characterized organic vs idiopathic GH

Study	Design	Participants	Duration	Finding
hypothalamic-pituitary disease	hypothalamic-pituitary abnormalities			deficiency; informed positioning of hexarelin vs the GHRH-arginine test [maghnie1998]
Locatelli et al. (1999, Endocrinology), cardioprotective	Preclinical isolated rat heart and in vivo rat ischemia model, including hypophysectomized animals	—	—	Hexarelin produced GH-independent cardioprotective effects in the rat; the protective effect persisted in hypophysectomized animals, dissociating the cardiac effect from pituitary GH release [locatelli1999]
Rossoni et al. (2000, Pharmacol Res), isolated rat heart	Preclinical isolated rat heart model of ventricular dysfunction induced by calcium-free perfusion	—	—	Hexarelin preserved left-ventricular function in the calcium-paradox model; consistent with the Locatelli 1999 GH-independent cardiac mechanism [rossoni2000]
Torsello et al. (2001, Endocrine), calcium deprivation	Preclinical isolated rat heart model of calcium deprivation/ replenishment injury	—	—	Hexarelin (but not growth hormone) protected isolated rat heart from calcium-paradox damage; further dissociation from a pituitary-GH-mediated mechanism [torsello2001]
Bodart et al. (2002, Circ Res), CD36 identification	Preclinical receptor-binding and signaling study identifying the cardiac receptor for GHRP-family peptides	—	—	Identified CD36 as the receptor mediating cardiovascular actions of hexarelin and other GHRP-family peptides; established the dual-receptor pharmacology that distinguishes hexarelin from selective GHS-R1a agonists [bodart2002]
	Repeated subcutaneous hexarelin (2 or 3	—	—	Characterized the impact of repeated daily subcutaneous

Study	Design	Participants	Duration	Finding
Maccario et al. (2002, Eur J Endocrinol), repeated daily dosing	injections/day) with 24-hour endocrine profiling			hexarelin on 24-h GH, prolactin, ACTH, and cortisol secretion; documented partial desensitization patterns over short-term repeated dosing [maccario2002]
Semenistaya et al. (2015, Drug Test Anal), urinary metabolites	Anti-doping mass spectrometry study characterizing urinary metabolites of GHRP-1, GHRP-2, GHRP-6, hexarelin, and ipamorelin after nasal administration	—	—	Established detection methods used in WADA-accredited laboratory practice for hexarelin and other GHRP-class peptides [semenistaya2015]

Hexarelin Pharmacokinetics & Pharmacodynamics

Pharmacokinetics

Hexarelin pharmacokinetics in humans were characterized in the 1990s phase 1 program. Bioavailability is high after intravenous bolus, moderate after subcutaneous injection, lower after intranasal administration, and substantially lower after oral administration; the route-comparison paper by Ghigo et al. 1994 provided the principal PK/PD reference for the program [ghigo1994, imbimbo1994]. The acute GH peak after a single subcutaneous dose of 1.5, 2.0 µg/kg occurs at approximately 30, 60 minutes and resolves over 2, 3 hours; plasma half-life of hexarelin itself is short (approximately 50, 70 minutes after intravenous dosing in the published phase 1 data).

Hexarelin is cleared primarily by proteolytic catabolism. Cytochrome P450 metabolism is not a significant pathway. Renal and hepatic-impairment PK have not been formally characterized.

Pharmacodynamics

Pharmacodynamic effects in humans are dominated by acute GH release from the pituitary somatotrope, with smaller dose-dependent rises in prolactin, ACTH, and cortisol [ciccarelli1996, maccario2002]. The TRH-induced TSH response is not affected [arosio1998]. Repeated daily subcutaneous dosing attenuates the GH response over days to weeks (the GHRP-class desensitization phenomenon), while short-term intranasal or oral dosing in aging adults does not produce comparable desensitization [ghigo1996_aging, maccario2002] [locatelli1999].

Preclinical pharmacodynamic effects relevant to potential cardiac indications, including preservation of post-ischemic left-ventricular function, modulation of cardiomyocyte injury markers, and CD36-mediated signaling, are described in rat models. None of these have been characterized in completed human cardiovascular trials [rossoni2000; torsello2001; bodart2002].

Comparing Hexarelin Formulations

Hexarelin has no manufactured comparator. Among the broader synthetic GH-secretagogue class, the selective GHS-R1a agonist ipamorelin is the most commonly cited comparator: ipamorelin binds GHS-R1a with similar potency to hexarelin but does not bind CD36 with comparable affinity and produces a smaller prolactin/ACTH/cortisol response [bodart2002, smith1999]. The orally active non-peptide GH secretagogue MK-677 (ibutamoren) achieves chronic GH-axis activation with once-daily oral dosing and was advanced further in clinical development than hexarelin (though also did not reach FDA approval). The FDA-approved oral GH-axis diagnostic agent macimorelin (Macrilen, 2017) supplanted hexarelin and the GHRH-arginine test as the standard pharmacologic GH-deficiency stimulus in adults for diagnostic use.

Hexarelin Storage and Handling

No FDA-approved manufactured hexarelin product exists and therefore no labeled storage recommendation. Reference standard and research-grade peptide material is typically supplied as lyophilized powder and stored at −20°C with desiccation; reconstituted solutions are not stable at room temperature for extended periods. RonanRx does not stock or compound hexarelin.

Hexarelin Compounding & Operations

503A compounding

Physicians may submit patient-specific prescription requests for pharmacy review. For hexarelin, certain preparations may be available now when clinically appropriate, lawfully prescribed, and approved by the dispensing pharmacy. Availability is determined case by case and may depend on patient-specific documentation, ingredient status, source qualification, formulation feasibility, state requirements, and pharmacist judgment. The review starts with the evidence constraint: The evidence base for hexarelin includes endocrine and exploratory cardiovascular research, but it has not matured into an FDA-approved product. The clinical record is too limited for broad consumer claims about performance, recovery, or aging.

This ingredient is part of an evolving FDA review process. RonanRx is monitoring FDA's PCAC process and any subsequent agency action. This ingredient is part of an evolving FDA review process for peptide-related

bulk substances used in compounding. Availability may change after FDA review, PCAC discussion, final agency action, or state-board guidance. For hexarelin, RonanRx ties that monitoring to the evidence limits described above and to any patient-specific documentation submitted by the prescriber.

Valid patient-specific prescription required. Supporting clinical rationale may be requested. Compounded medications are not FDA-approved. No consumer self-ordering, no office stock, no bulk dispensing. Requests for hexarelin are reviewed before any preparation is made or released. Patient-specific pharmacy review keeps hexarelin requests attached to a prescriber, an identified patient, and a formulation decision rather than to a direct-to-consumer peptide protocol.

Pharmacist review

For hexarelin, the pharmacist review starts before any preparation is made. Valid patient-specific prescription required. Supporting clinical rationale may be requested. The pharmacist reviews ingredient status, sourcing, formulation feasibility, state requirements, patient-specific documentation, and whether dispensing is appropriate case by case.

Quality and traceability

If a hexarelin preparation is approved after pharmacy review, RonanRx applies source documentation, formulation records, lot traceability, release checks, and storage controls appropriate to the actual dosage form. Research-use vial storage practices do not substitute for pharmacy-assigned storage, beyond-use dating, sterility controls when applicable, or recallable batch records. The patient-specific framework and quality controls are documented in the cited compounding references [usp_795; usp_797].

Cold chain

If a hexarelin preparation is approved after pharmacy review, RonanRx applies source documentation, formulation records, lot traceability, release checks, and storage controls appropriate to the actual dosage form. Research-use vial storage practices do not substitute for pharmacy-assigned storage, beyond-use dating, sterility controls when applicable, or recallable batch records.

Frequently Asked Questions About Hexarelin

Can physicians request hexarelin through RonanRx?

Physicians may submit patient-specific prescription requests for pharmacy review. Certain preparations may be available now when clinically appropriate, lawfully prescribed, and approved by the dispensing pharmacy. Availability is determined case by case. Compounded medications are not FDA-approved, and no consumer self-ordering, office stock, or bulk dispensing is offered.

Is hexarelin FDA-approved?

No. Hexarelin was developed by Mediolanum Farmaceutici in Italy in the 1990s and studied in small phase 1 and phase 2 human trials, but it did not reach FDA approval for any indication. No manufactured hexarelin product is on the U.S [imbimbo1994; ghigo1994]. market.

How does hexarelin differ from ipamorelin?

Both bind the growth hormone secretagogue receptor GHS-R1a (the receptor for natural ghrelin) [smith1999]. Hexarelin also binds CD36, a scavenger receptor expressed on cardiomyocytes and macrophages, and produces dose-dependent rises in prolactin, ACTH, and cortisol that are smaller or absent with the selective GHS-R1a agonist ipamorelin. The CD36 interaction is the principal pharmacologic distinction between hexarelin (and other GHRP-family peptides) and ipamorelin [bodart2002].

Why was hexarelin not developed to FDA approval?

Phase 2 clinical development of hexarelin for growth hormone deficiency and for cardiac indications was not advanced to phase 3 in the late 1990s [imbimbo1994; ghigo1994]. The GH-axis diagnostic space subsequently moved to the GHRH-arginine test and to FDA-approved macimorelin (2017). Hexarelin remained available only as a research-grade peptide.

Is hexarelin allowed in competitive sport?

No. Hexarelin is prohibited at all times under section S2 of the World Anti-Doping Agency Prohibited List (Peptide Hormones, Growth Factors, Related Substances and Mimetics) [wada_prohibited_2026]. Routine anti-doping urine assays detect hexarelin and its metabolites [thevis2006; semenistaya2015].

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How to Access Hexarelin

Compounded Hexarelin is dispensed under 503A on a patient-specific prescription. Depending on your role, the next step looks different.

FOR PRESCRIBING CLINICIANS

Offer this medication

A pharmacist will follow up within two business days. We'll cover state availability, supported formulations, and what integration looks like for your clinic.

ronanrx.com/request-partnership-call

PATIENT WITH A DOCTOR

Receive your prescription

If your doctor has prescribed Hexarelin, sign up so we can prepare and ship your medication. The signup wizard collects intake and connects you to the prescribing workflow.

ronanrx.com/patients

PATIENT WITHOUT A DOCTOR

Find a partner clinic

RonanRx prescribes through partner clinics — we don't initiate prescriptions on this site. Read how the referral process works and how to find a partner clinic in your state.

ronanrx.com/find-clinic

Other compounds RonanRx makes

This monograph is one of many in the RonanRx formulary. Every compound below is prepared under 503A on a patient-specific prescription. Browse the full catalog at ronanrx.com/medications and ronanrx.com/peptides, or scan the codes at right for each index.

Medications

Peptides

MEDICATIONS (40)

Alpha-Lipoic Acid (ALA) — Antioxidant & mitochondrial
Coenzyme Q10 (CoQ10) — Antioxidant & mitochondrial
Glutathione — Antioxidant & mitochondrial
NAD+ / NMN — Antioxidant & mitochondrial
Compounded Topical Anesthetics (BLT, LET) — Dermatology
Topical Minoxidil — Dermatology
Topical Tretinoin — Dermatology
Compounded Magnesium — Energy & nutritional
Cyanocobalamin — Energy & nutritional
High-Dose Vitamin D — Energy & nutritional
Hydroxocobalamin — Energy & nutritional
Iron (Compounded) — Energy & nutritional
L-Carnitine — Energy & nutritional
Methylcobalamin (B12) — Energy & nutritional
Methylfolate — Energy & nutritional
Anastrozole — Hormone optimization
Clomiphene & Enclomiphene — Hormone optimization
DHEA — Hormone optimization
Estradiol — Hormone optimization
Estriol — Hormone optimization
Human Chorionic Gonadotropin (HCG) — Hormone optimization
Pregnenolone — Hormone optimization
Progesterone — Hormone optimization
Testosterone — Hormone optimization
Compounded Metformin — Metabolic & weight
Compounded Semaglutide — Metabolic & weight
Compounded Tirzepatide — Metabolic & weight
Lipotropic Injection (MIC, MICC) — Metabolic & weight
Low-Dose Naltrexone (LDN) — Metabolic & weight
Naltrexone-Bupropion Combination — Metabolic & weight
Topiramate — Metabolic & weight
Bremelanotide / PT-141 — Sexual health
Compounded Sildenafil — Sexual health
Compounded Tadalafil — Sexual health
Trimix Injection — Sexual health
Compounded Gabapentin — Sleep & recovery
Compounded Melatonin — Sleep & recovery
Compounded T3 (Liothyronine) — Thyroid
Compounded T3/T4 Combinations — Thyroid
Compounded T4 (Levothyroxine) — Thyroid

PEPTIDES (21)

Sermorelin — Available now

Tesamorelin — Available now

AOD-9604 — Growth-hormone axis (under FDA review)

CJC-1295 — Growth-hormone axis (under FDA review)

GHRP-2 / GHRP-6 — Growth-hormone axis (under FDA review)

Hexarelin — Growth-hormone axis (under FDA review)

Ipamorelin — Growth-hormone axis (under FDA review)

MK-677 / Ibutamoren — Growth-hormone axis (under FDA review)

5-Amino 1MQ — Metabolic & longevity (under FDA review)

Epitalon / Epithalon — Metabolic & longevity (under FDA review)

MOTS-C — Metabolic & longevity (under FDA review)

Thymosin Alpha-1 / Thymalin — Metabolic & longevity (under FDA review)

DSIP, Delta Sleep-Inducing Peptide — Neuro & cognitive (under FDA review)

Selank — Neuro & cognitive (under FDA review)

Semax — Neuro & cognitive (under FDA review)

Vasoactive Intestinal Peptide (VIP) — Neuro & cognitive (under FDA review)

BPC-157 — Tissue repair (under FDA review)

KPV — Tissue repair (under FDA review)

LL-37 — Tissue repair (under FDA review)

Pentadeca Arginate (PDA) — Tissue repair (under FDA review)

TB-500 / Thymosin Beta-4 — Tissue repair (under FDA review)