



PEPTIDES

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QUANTUM HEALTH PRACTITIONER





AGENDA

1: WHAT ARE PEPTIDES, AND WHY SHOULD A CLINICIAN CARE?

- Understanding Peptides
- Why Are We Talking About Peptides?
- What Is a Peptide?
- Your Body Already Uses Peptides

3: PEPTIDES ARE NOT A NEW IDEA IN MEDICINE

- A Short History of Peptide Therapeutics
- Peptides Already Exist in Mainstream Clinical Medicine

2: HOW DO PEPTIDES WORK?

- Peptides as Biological Messengers
- Why Different Peptides Produce Different Effects
- From Endogenous Signal to Therapeutic Strategy

4: NOT ALL PEPTIDES ARE THE SAME

- The Peptide Spectrum
- Approved, Investigational and Marketed Are Different Categories

5: WHERE ARE PEPTIDES BEING USED OR INVESTIGATED?

- Major Areas of Clinical Interest
- Clinical Application 1: Metabolic / Endocrine
- Clinical Application 2: Repair / Recovery
- Clinical Application 3: Inflammation / Immune / GI
- Clinical Application 4: Neurological / Sexual Health / Healthy Aging





AGENDA

6: WHAT DOES THE EVIDENCE ACTUALLY SHOW?

- Evidence Is Not One Thing
- Mechanism Does Not Automatically Equal Clinical Outcome
- Where Is the Evidence Strong?
- Where Is the Evidence Emerging?
- Where Is the Evidence Limited?

9: BPC-157 and Cancer

- Where does the concern come from?
- The pathway behind the concern
- Concern does not equal causation

7: CASE STUDIES: HOW SHOULD A CLINICIAN READ THE EVIDENCE?

- Case Study 1: An Established Peptide Therapeutic
- Case Study 2: BPC-157 or Another Emerging/Controversial Peptide

10: MOLECULES OF EMOTION

- What mediates the interaction of the new system with the brain?
- Lock and Key mechanism
- Endorphin called Methionine - Enkephalin

8: SAFETY, QUALITY, REGULATION AND CLINICAL RESPONSIBILITY

- What Does a Clinician Need to Know About Safety?
- Quality Matters
- Regulatory Status Matters

11: HOW SHOULD A CLINICIAN DECIDE?

- Seven Questions Before Considering a Peptide
- Closing: The Right Question





KENNEDY LODATO

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Expert Board Certified Holistic Health Practitioner (AADP)**

"If all it took was exercise, nutrition, hydration and a positive attitude, the whole world would be healthy. What's missing is addressing the whole person and whole being: from our thoughts, emotions and perceptions and the impact they have on our organs, organ systems, energy flow and subtle bodies."

Advocating Fitness, Health, Wellness and Longevity for over three decades!



1

WHAT ARE PEPTIDES, AND WHY SHOULD A CLINICIAN CARE?



Healing Beyond the Mask: The Regenerative Power of Peptide Therapy

TRADITIONAL PAIN MANAGEMENT



MASKING SYMPTOMS

Traditional meds block pain signals; peptides work at the cellular level to repair the pathology.



ZERO ADDICTION POTENTIAL

Unlike opioids, peptides carry no risk of dependency, respiratory depression, or overdose.



DEGENERATING

While steroids can accelerate cartilage decay...



PROMOTING

...peptides like GHK-Cu actively support joint health.

COMMON THERAPEUTIC PEPTIDES FOR PAIN MANAGEMENT



BPC-157

PRIMARY BENEFIT:
Tissue Protection

BEST FOR:
Tendon/ligament healing and nerve repair



TB-500

PRIMARY BENEFIT:
Mobility Enhancement

BEST FOR:
Reducing scar tissue and improving range of motion



GHK-Cu

PRIMARY BENEFIT:
Collagen Promotion

BEST FOR:
Strengthening joints and improving tissue elasticity



PEPTIDE THERAPY

Peptides are short chains of amino acids that act as cellular messengers, instructing the body to repair tissue, reduce inflammation, and improve circulation. Unlike traditional pain management that suppresses symptoms, peptide therapy harnesses the body's natural signaling pathways to achieve genuine functional restoration.

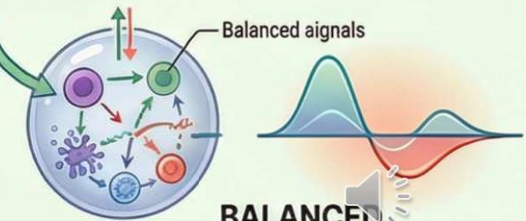
HOW PEPTIDES REBUILD YOUR BODY

STIMULATES ANGIOGENESIS

Peptides like BPC-167 trigger new blood vessel growth to deliver oxygen to injured tissues.

ACCELERATES TISSUE REGENERATION

Activate fibroblasts to produce collagen, essential for repairing tendons, ligaments, and muscle strains.



BALANCED INFLAMMATION CONTROL

Selectively regulates inflammatory pathways to allow healing without the risks of total suppression.



WHAT ARE PEPTIDES, AND WHY SHOULD A CLINICIAN CARE?

Understanding Peptides

“Peptide” isn’t a treatment plan.

It’s an umbrella term.



GLP-1s.



Growth hormone secretagogues.



BPC-157.



Thymic peptides.

Different biology.

Different mechanisms.

Different evidence.



Grouping them together tells you almost nothing clinically.

01

BIOLOGY

02

EVIDENCE

03

CLINICAL APPLICATIONS

04

CORTISOL ACTIVATION



WHAT ARE PEPTIDES, AND WHY SHOULD A CLINICIAN CARE?

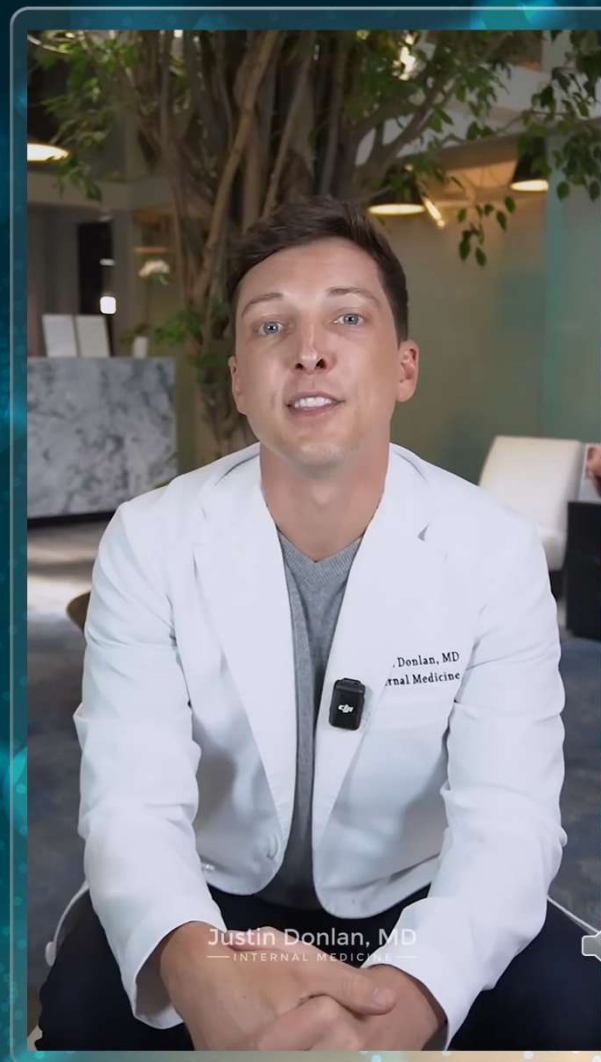
Why Are We Talking About Peptides?

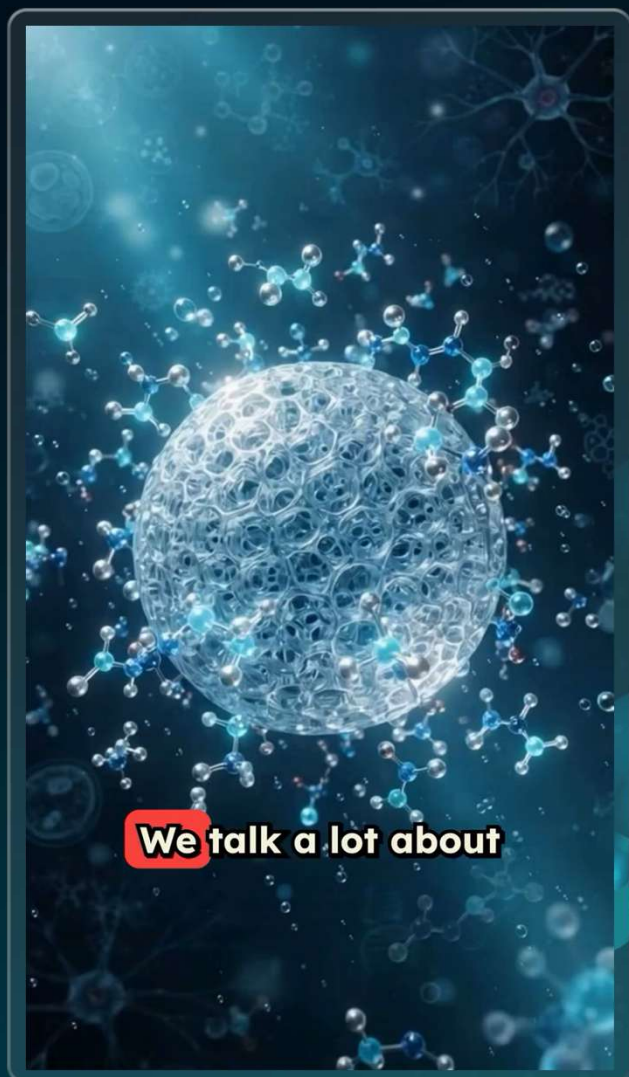
RAPIDLY GROWING CLINICAL AND PATIENT INTEREST

INCREASING USE ACROSS METABOLIC, ENDOCRINE,
REGENERATIVE AND OTHER AREAS OF MEDICINE

MAJOR CONFUSION BETWEEN ESTABLISHED
PEPTIDE THERAPEUTICS AND
INVESTIGATIONAL/MARKETED COMPOUNDS

THE PURPOSE: UNDERSTAND THE FIELD BEFORE
DECIDING WHAT BELONGS IN CLINICAL PRACTICE





We talk a lot about

WHAT ARE PEPTIDES, AND WHY SHOULD A CLINICIAN CARE?

What Is a Peptide?

01

AMINO ACIDS JOINED BY PEPTIDE BONDS

02

SMALLER CHAINS THAN MOST PROTEINS

03

*NATURALLY PRESENT THROUGHOUT
HUMAN PHYSIOLOGY*

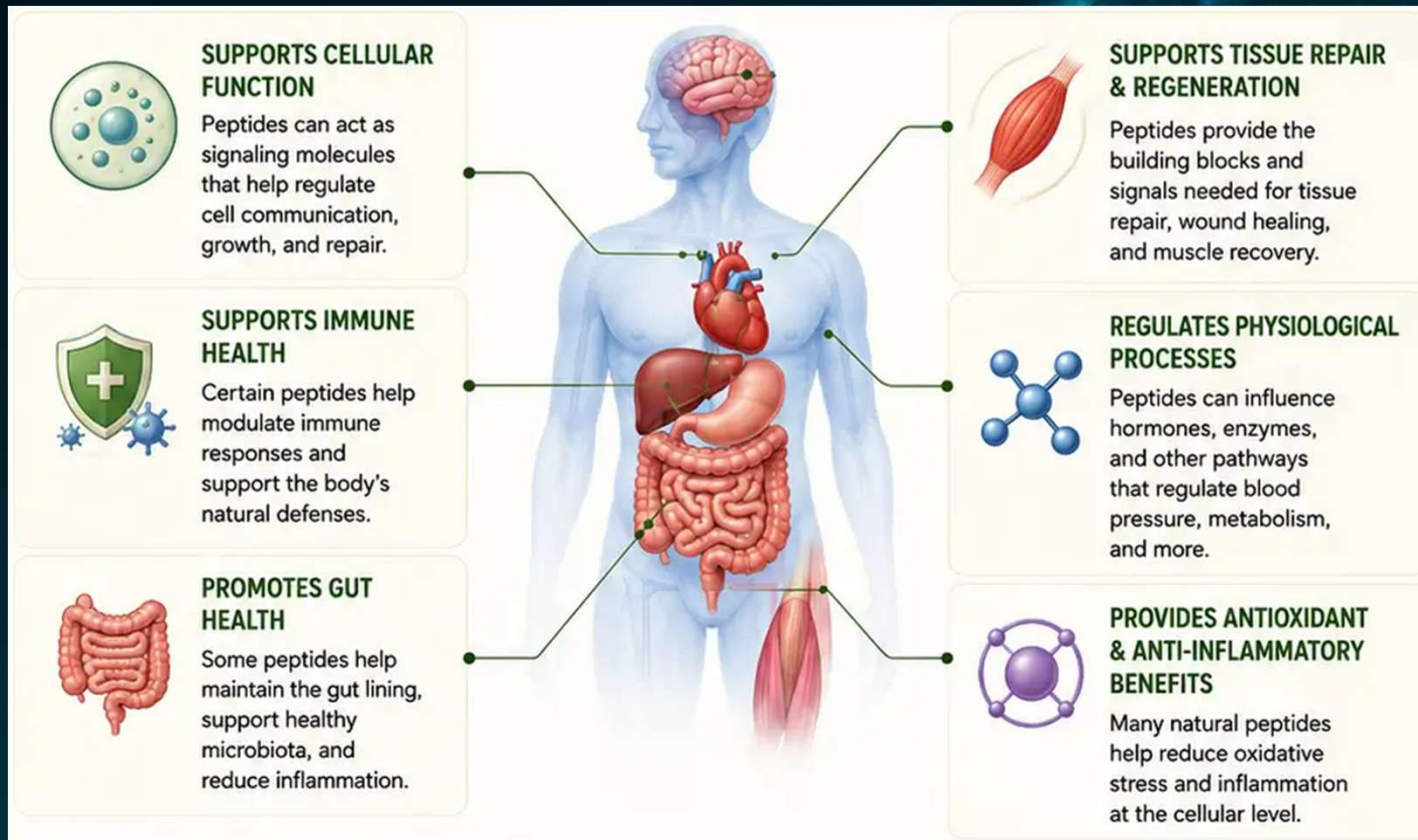
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*STRUCTURE INFLUENCES BIOLOGICAL
FUNCTION*



WHAT ARE PEPTIDES, AND WHY SHOULD A CLINICIAN CARE?

Your Body Already Uses Peptides



HORMONAL SIGNALLING

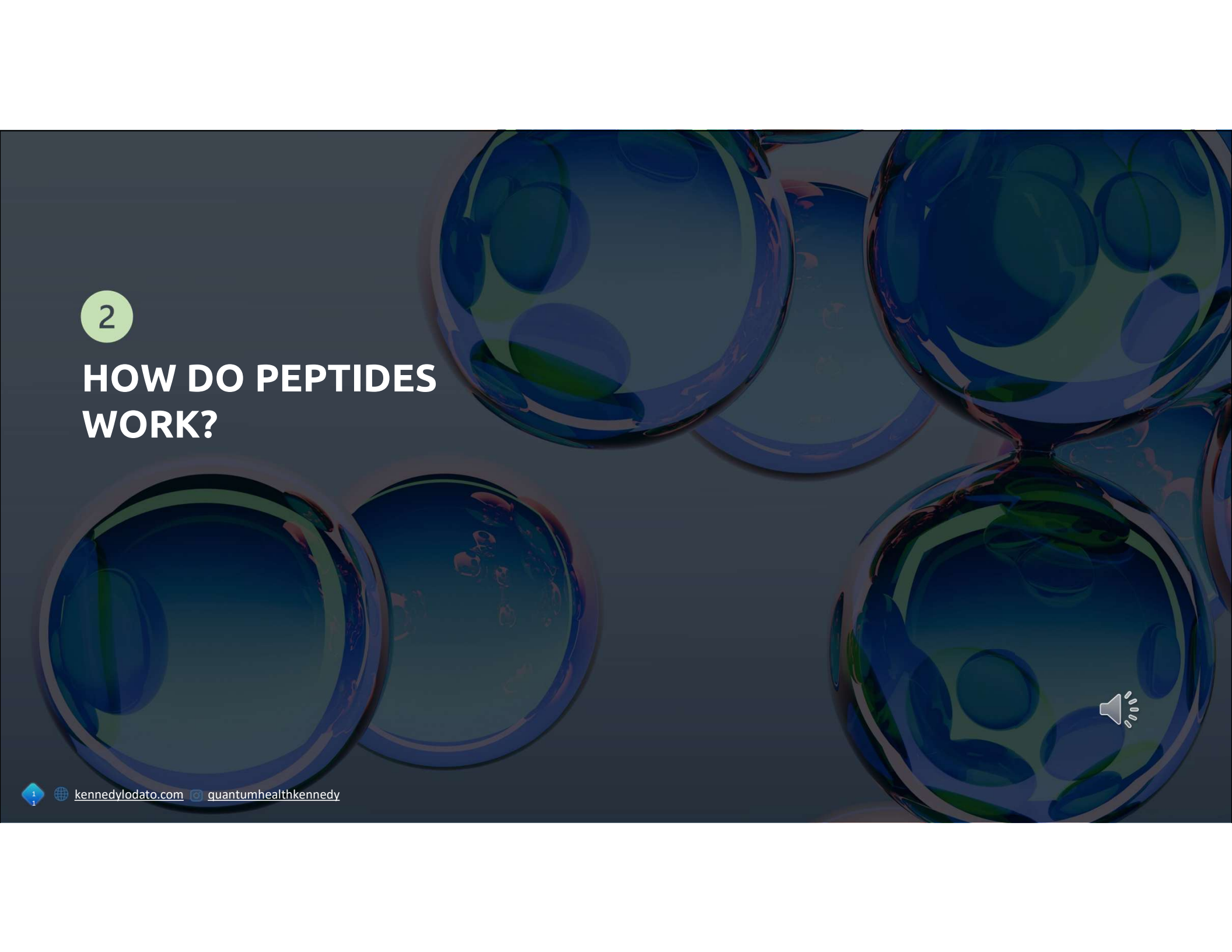
METABOLIC REGULATION

NEUROENDOCRINE
COMMUNICATION

IMMUNE SIGNALLING

GROWTH, REPAIR AND
TISSUE REGULATION

PEPTIDE SIGNALING IS ALREADY FUNDAMENTAL TO HUMAN BIOLOGY.

The background of the slide features several large, overlapping spheres in shades of blue and green. These spheres have a glossy, reflective surface, with highlights and shadows that give them a three-dimensional appearance. They are scattered across the frame, with some appearing more prominent than others.

2

HOW DO PEPTIDES WORK?



kennedylodato.com

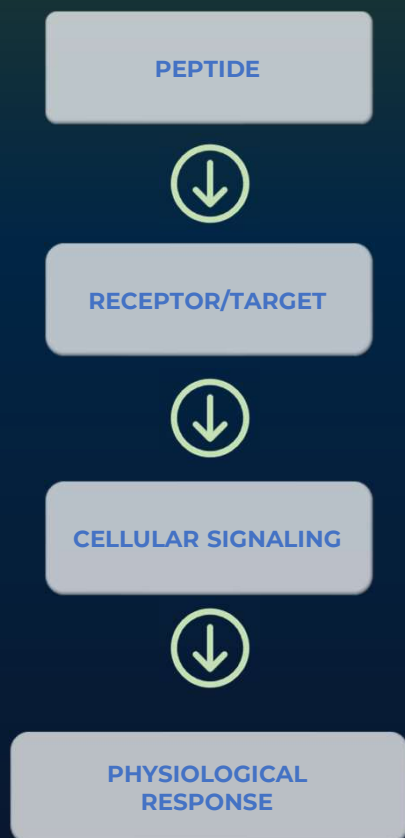


[quantumhealthkennedy](https://www.instagram.com/quantumhealthkennedy)



HOW DO PEPTIDES WORK?

Peptides as Biological Messengers





HOW DO PEPTIDES WORK?

Why Different Peptides Produce Different Effects



01 *MOLECULAR STRUCTURE*



02 *RECEPTOR AFFINITY AND SELECTIVITY*



03 *TISSUE DISTRIBUTION*



04 *SIGNALLING PATHWAY*



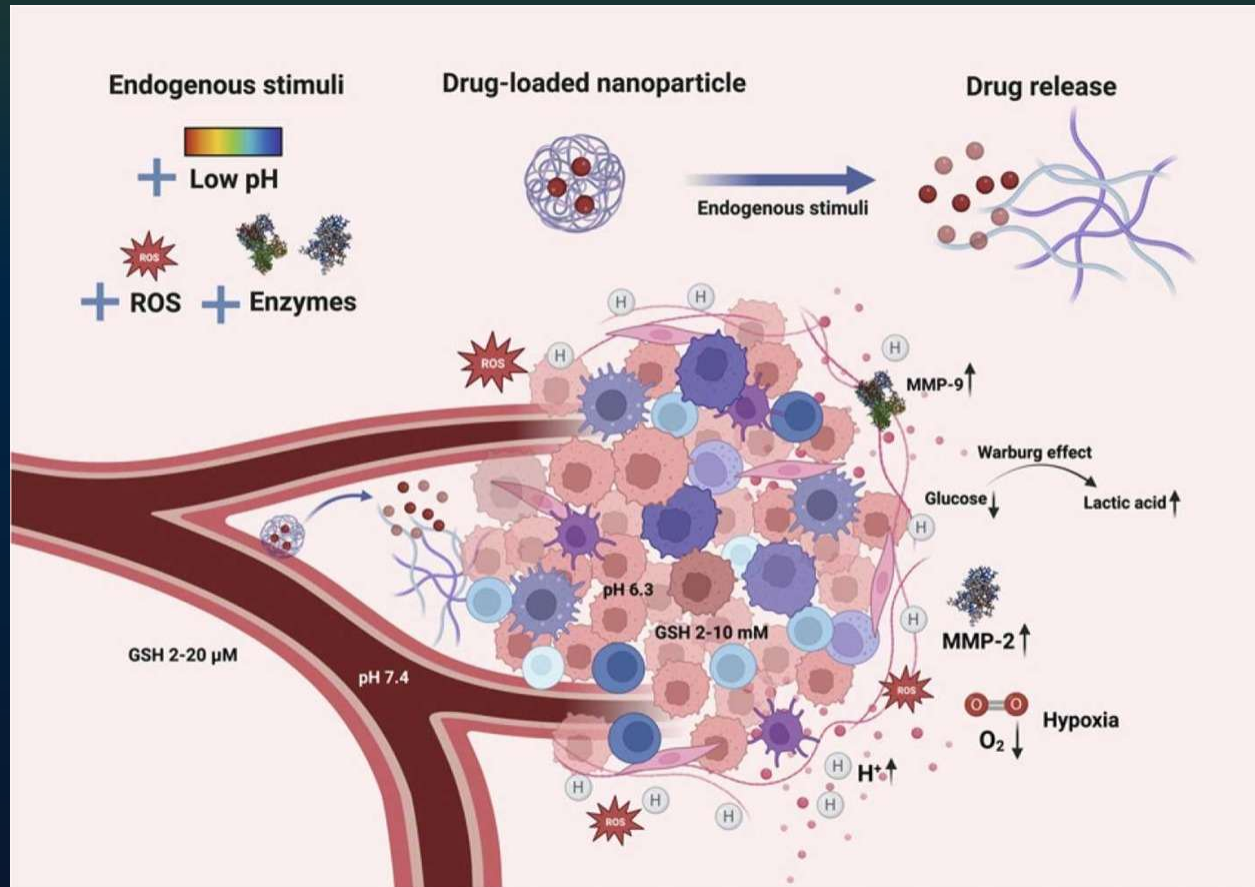
05 *DOSE AND EXPOSURE*



06 *PATIENT/BIOLOGICAL CONTEXT*



From Endogenous Signal to Therapeutic Strategy



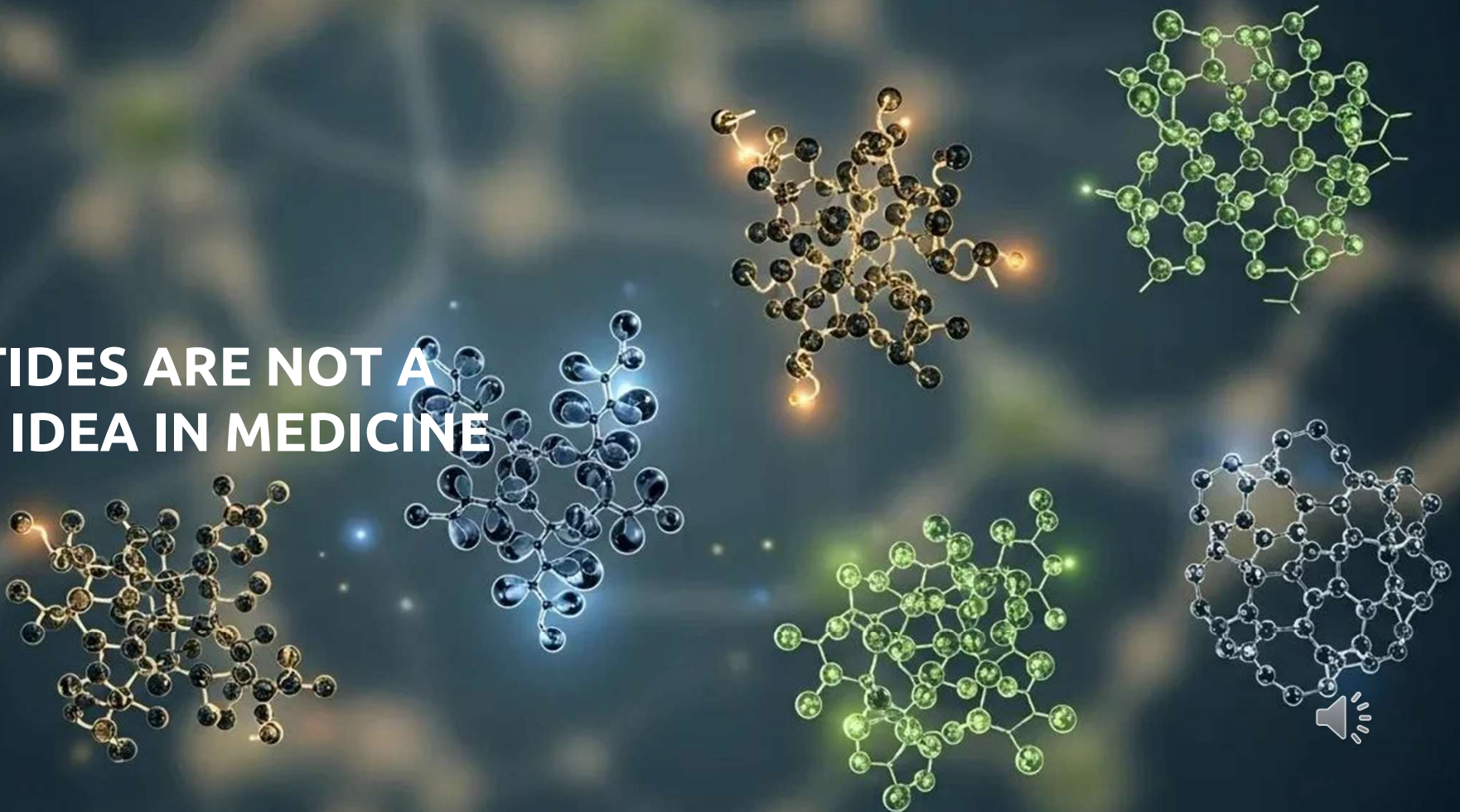
If physiology already uses peptide signaling, medicine can potentially replace, mimic, modify or influence those signals therapeutically.

This creates the bridge from normal biology to peptide-based medicine.



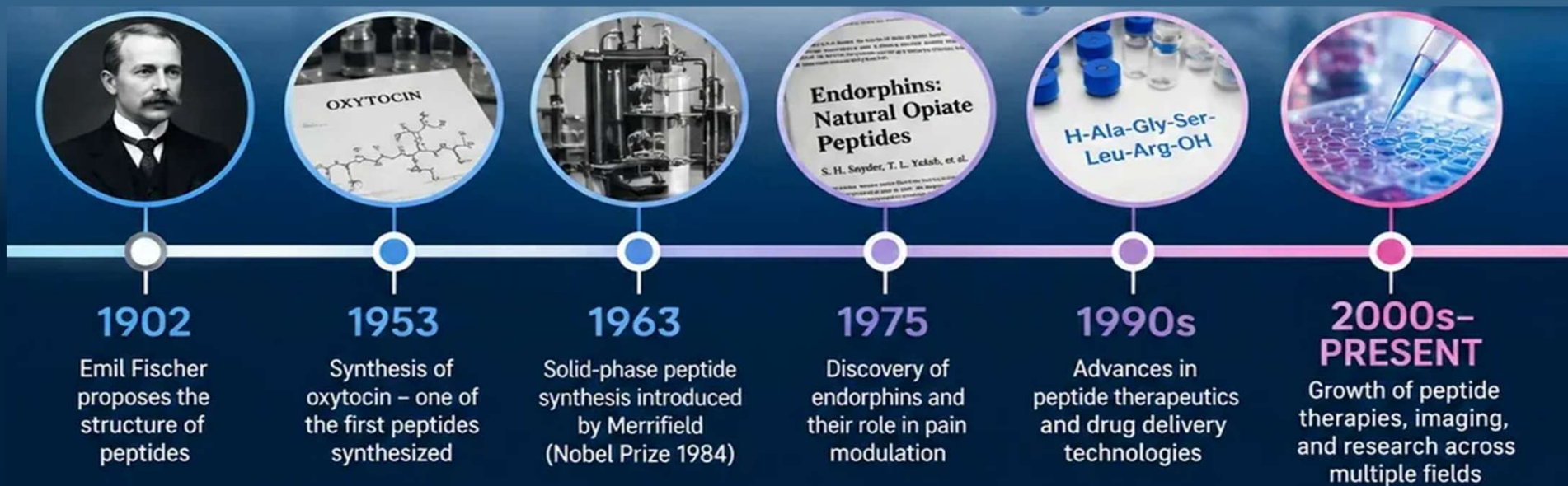
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PEPTIDES ARE NOT A NEW IDEA IN MEDICINE



PEPTIDES ARE NOT A NEW IDEA IN MEDICINE

A Short History of Peptide Therapeutics



A Short History of Peptide Therapeutics

Landmark peptide therapeutics such as insulin



INSULIN
(51 amino acids)

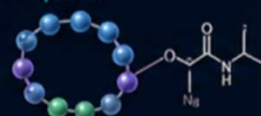


LINEAR PEPTIDE
Natural peptide sequence

Advances in synthesis, purification and molecular design

PEPTIDE ENGINEERING

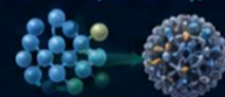
Cyclization



Lipidation



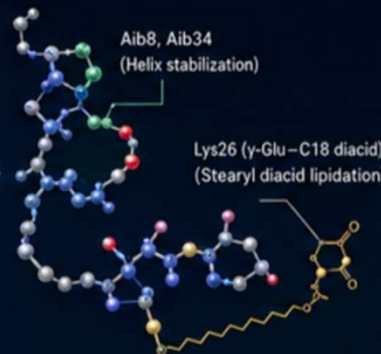
Formulation (Oral Delivery)



Increasing ability to alter stability, half-life and receptor activity

OPTIMIZED GLP-1 PEPTIDE

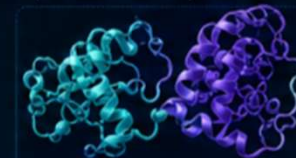
Semaglutide (Ozempic®, Wegovy®)



Molecular Formula: $C_{187}H_{291}N_{45}O_{59}S$
Molecular Weight: 4,113.6 Da
Sequence: 31 amino acids

AI-POWERED PEPTIDE DESIGN

AlphaFold 2 structure prediction



Generative AI models



In silico screening and optimization

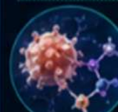
Expansion of peptide-based therapeutics across modern medicine

THERAPEUTIC APPLICATIONS



OBESITY & DIABETES (GLP-1 THERAPIES)

- Glycemic control
- Weight loss
- Cardiometabolic benefit



CANCER TARGETING

- Peptide-drug conjugates
- Receptor targeting
- Tumor penetration



PRECISION MEDICINE

- Patient-specific peptides
- Biomarker-guided therapy
- Improved efficacy and safety



AI-DESIGNED PEPTIDES

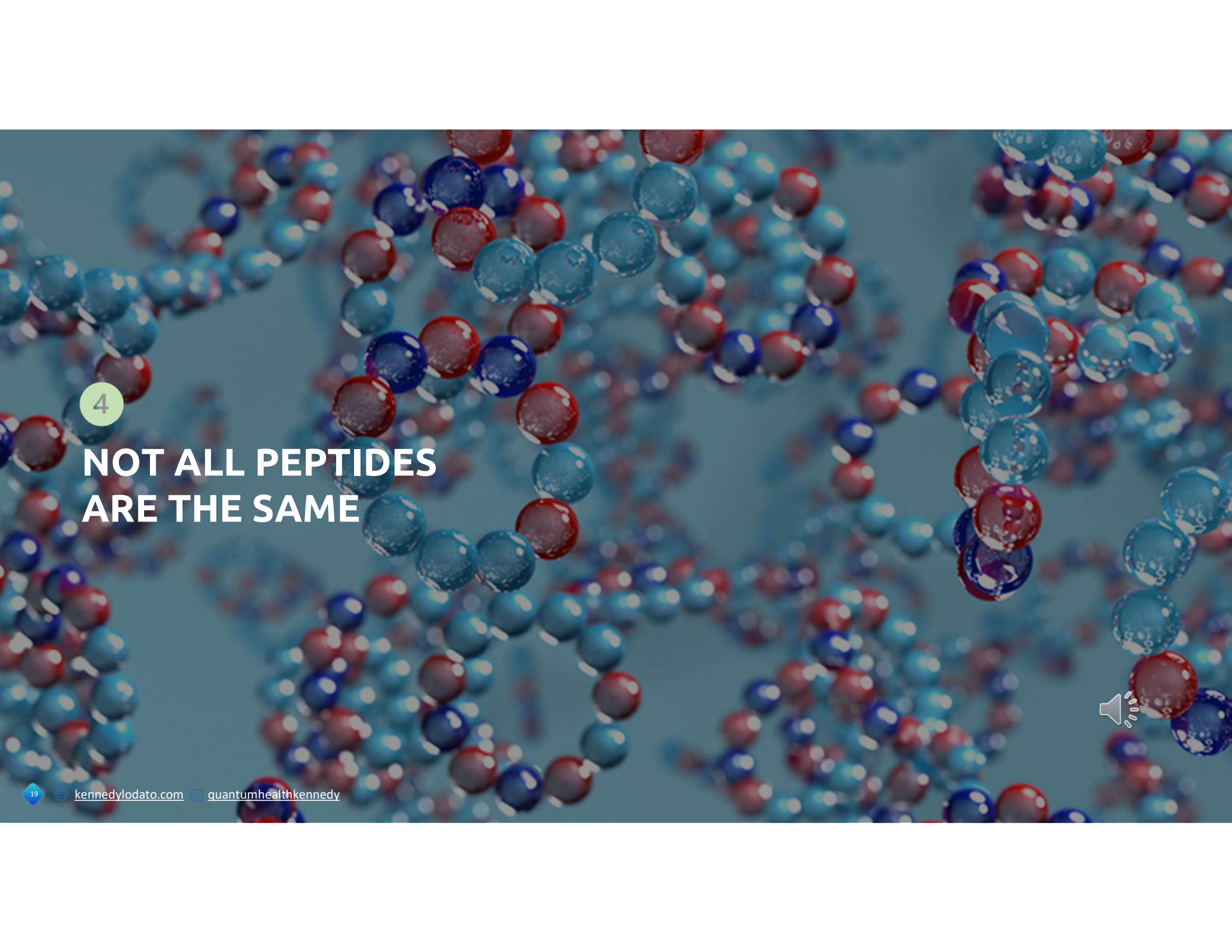
- De novo sequence design
- Multi-parameter optimization
- Faster, smarter discovery



PEPTIDES ARE NOT A NEW IDEA IN MEDICINE

Peptides Already Exist in Mainstream Clinical Medicine

01  BPC-157 REGENERATIVE 📅 4-8 WEEKS Tissue repair, gut healing, tendon/ligament recovery	02  MOTS-c METABOLIC 📅 2-4 WEEKS Mitochondrial function, insulin sensitivity, energy	09  TB-500 REGENERATIVE 📅 4-6 WEEKS Soft tissue repair, flexibility, angiogenesis	10  TGI-Ant COGNITIVE 📅 8-16 WEEKS GH/IGF-1 optimization, body composition, sleep, vitality
03  GHK-Cu REGENERATIVE 📅 24+ MONTHS Skin collagen, wound healing, anti-inflammatory	04  Semax NEURO/COGNITIVE 📅 10-30 DAYS Focus, neuroprotection, BDNF upregulation	11  CJC-1295 + Ipamorelin GH AXIS 📅 8-16 WEEKS GH secretagogue, lean muscle mass, sleep quality	12  IGF-1 LR3 GH AXIS 📅 2-4 WEEKS Muscle growth, cellular repair, anabolic signaling
05  KPV REGENERATIVE 📅 6-12 MONTHS Gut inflammation, IBD, immune modulation	06  Tesamorelin GH AXIS 📅 6-12+ MONTHS Visceral fat reduction, GH/IGF-1, body composition	13  hCG METABOLIC 📅 4-6 WEEKS Hormonal support, testosterone optimization (men)	14  NAD+ LONGEVITY 📅 24+ MONTHS Cellular energy, DNA repair, cognitive function
07  Retatrutide METABOLIC 📅 12-24 WEEKS Triple agonist (GLP-1/GIP/glucagon) weight management	08  Epitalon LONGEVITY 📅 10-20 DAYS Telomere support, circadian rhythm, anti-aging		



4

NOT ALL PEPTIDES ARE THE SAME





NOT ALL PEPTIDES ARE THE SAME

The Peptide Spectrum



ENDOGENOUS
PEPTIDES



APPROVED PEPTIDE
THERAPEUTICS



MODIFIED PEPTIDE
ANALOGUES



INVESTIGATIONAL
PEPTIDES



COMPOUNDED/
OFF-LABEL
APPLICATIONS



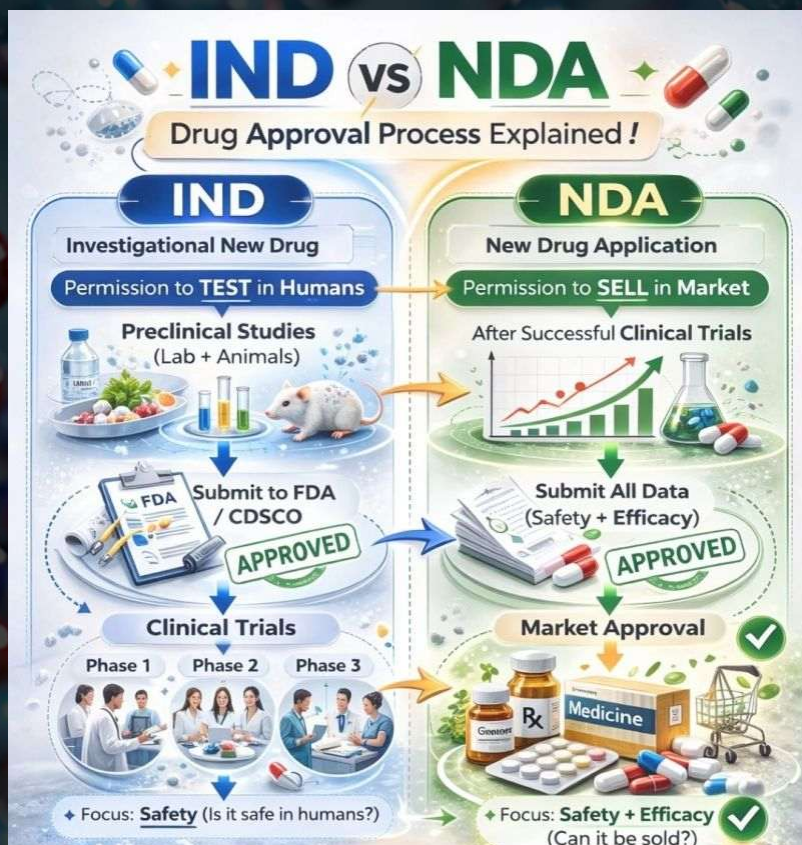
PERFORMANCE/LONGEVITY
MARKETPLACE

THE WORD "PEPTIDE" DOES NOT TELL YOU THE STRENGTH OF EVIDENCE, SAFETY PROFILE OR REGULATORY STATUS.



NOT ALL PEPTIDES ARE THE SAME

Approved, Investigational and Marketed Are Different Categories



Key Differences		
	IND	NDA
Stage	Before Human Trials	✓ After Clinical Trials
Purpose	• Test on Humans	✓ Sell in Market
Focus	✓ Safety	✓ Safety + Efficacy
Outcome	✓ Start Trials	✓ Get Market Approval

Next Step: **IND** → **Clinical Trials** → **NDA** → **Market**



5

WHERE ARE PEPTIDES BEING USED OR INVESTIGATED?





WHERE ARE PEPTIDES BEING USED OR INVESTIGATED?

Major Areas of Clinical Interest



METABOLIC HEALTH
AND WEIGHT
MANAGEMENT



ENDOCRINE
SIGNALLING



TISSUE REPAIR AND
RECOVERY



INFLAMMATION AND IMMUNE
MODULATION



GASTROINTESTINAL
APPLICATIONS



NEUROLOGICAL/COGNITIVE
RESEARCH



SEXUAL/REPRODUCTIVE
HEALTH



BODY COMPOSITION AND
HEALTHY-AGING RESEARCH

THE WORD "PEPTIDE" DOES NOT TELL YOU THE STRENGTH OF EVIDENCE, SAFETY PROFILE OR REGULATORY STATUS.





WHERE ARE PEPTIDES BEING USED OR INVESTIGATED?

Clinical Application 1: Metabolic / Endocrine

Research basis: STEP 1 (NEJM, 2021); SURMOUNT-1 (NEJM, 2022); FDA EGRIFTA labeling.

PEPTIDE / THERAPY	INTENDED OUTCOME	HUMAN EVIDENCE	KEY LIMITATIONS
Semaglutide GLP-1 receptor agonist 	 Weight reduction and improved blood-glucose control.	 Strong. Large randomized human trials. In STEP 1, average weight change was about -15% at 68 weeks.	 GI side effects are common. Requires appropriate patient selection and ongoing treatment.
Tirzepatide GIP/GLP-1 receptor agonist 	 Weight reduction and improved metabolic measures.	 Strong. Large randomized human trials. SURMOUNT-1 showed about 15-21% average weight reduction, depending on dose, at 72 weeks.	 GI side effects are common. Results apply to the populations and indications studied.
Tesamorelin GHRH analogue 	 Reduces excess visceral abdominal fat in HIV-associated lipodystrophy.	 Established. Randomized human trials supported FDA approval for this specific indication.	 Not a general weight-loss or anti-aging therapy; indication is specific.



WHERE ARE PEPTIDES BEING USED OR INVESTIGATED?

Clinical Application 2: Repair / Recovery

Research basis: teriparatide controlled trials; thymosin beta-4 phase 2 venous-ulcer trial; 2026 GHK-Cu clinical evidence review.

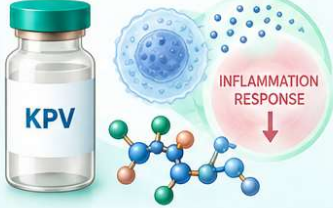
PEPTIDE / THERAPY	INTENDED OUTCOME	HUMAN EVIDENCE	KEY LIMITATIONS
Teriparatide PTH(1-34) peptide 	 Stimulates bone formation and reduces fracture risk in selected osteoporosis patients.	 Strong. Controlled human trials and established clinical muse.	 Evidence is for bone/osteoporosis treatment - not proof that all regenerative peptides heal endons or muscles.
Thymosin beta-4 	 Proposed support for wound repair, cell migration and tissue healing.	 Early human evidence. A randomized phase 2 venous-ulcer study included 73 patients and showed a possible healing signal at one dose.	 Small studies; specific formulation and indication. Do not treat TB-500 marketing claims as equivalent to thymosin beta-4 clinical evidence.
GHK-Cu Copper tripeptide 	 Proposed support for skin remodeling and tissue repair.	 Limited. Human studies are small; the preclinical/mechanistic literature is much larger than the clinical literature.	 Human outcome data remain thin and fragmented; formulation and route matter.



WHERE ARE PEPTIDES BEING USED OR INVESTIGATED?

Clinical Application 3: Inflammation / Immune / GI

Research basis: FDA GATTEX information; FDA Pharmacy Compounding Advisory Committee materials, July 2026.

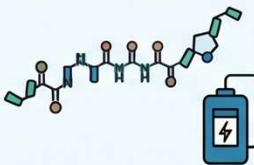
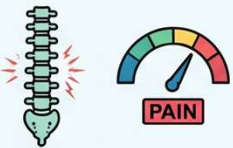
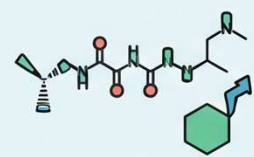
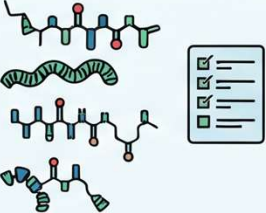
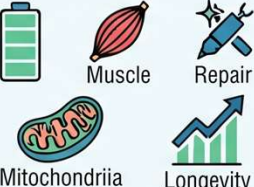
 PEPTIDE / THERAPY	 INTENDED OUTCOME	 HUMAN EVIDENCE	 KEY LIMITATIONS
Teduglutide GLP-2 analogue 	 Improves intestinal absorption and can reduce dependence on parenteral support in short bowel syndrome.	 Strong / established. Controlled human evidence; FDA-approved for short bowel syndrome in patients dependent on parenteral support.	 Very specific indication. Requires clinical monitoring and should not be generalized to broad 'gut-healing' claims.
KPV Alpha-MSH-derived tripeptide 	 Proposed anti-inflammatory and wound/GI effects.	 Limited. Biological and preclinical rationale exists, but robust human efficacy evidence is lacking.	 Mechanism does not equal proven clinical benefit. FDA reviewed KPV-related bulk substances in the compounding context in 2026.



WHERE ARE PEPTIDES BEING USED OR INVESTIGATED?

Clinical Application 4: Neurological / Sexual Health / Healthy Aging

Research basis: FDA PRIALT and VYLEESI labeling; FDA 2026 peptide-compounding review materials.

AREA	PEPTIDE	INTENDED OUTCOME	HUMAN EVIDENCE	KEY LIMITATIONS
 Neurological	Ziconotide 	Intrathecal treatment for severe chronic pain. 	Established. FDA-approved peptide therapeutic with human clinical evidence. 	Specialized intrathecal treatment with important CNS safety considerations; not a general cognitive-enhancement peptide. 
 Sexual health	Bremelanotide 	Treatment of acquired, generalized HSDD in premenopausal women. 	Established for this defined indication. Human trials supported FDA approval. 	Not approved for men, postmenopausal women, or general sexual-performance enhancement. 
Healthy aging / longevity  Healthy aging / longevity	Many 	Claims often include energy, body composition, recovery, mitochondrial function or longevity. 	No single peptide should be presented here as an established general anti-aging therapy. 	Disease-specific results, biomarkers or animal findings should not be presented as proof of longer life or broad healthy-aging benefit. 



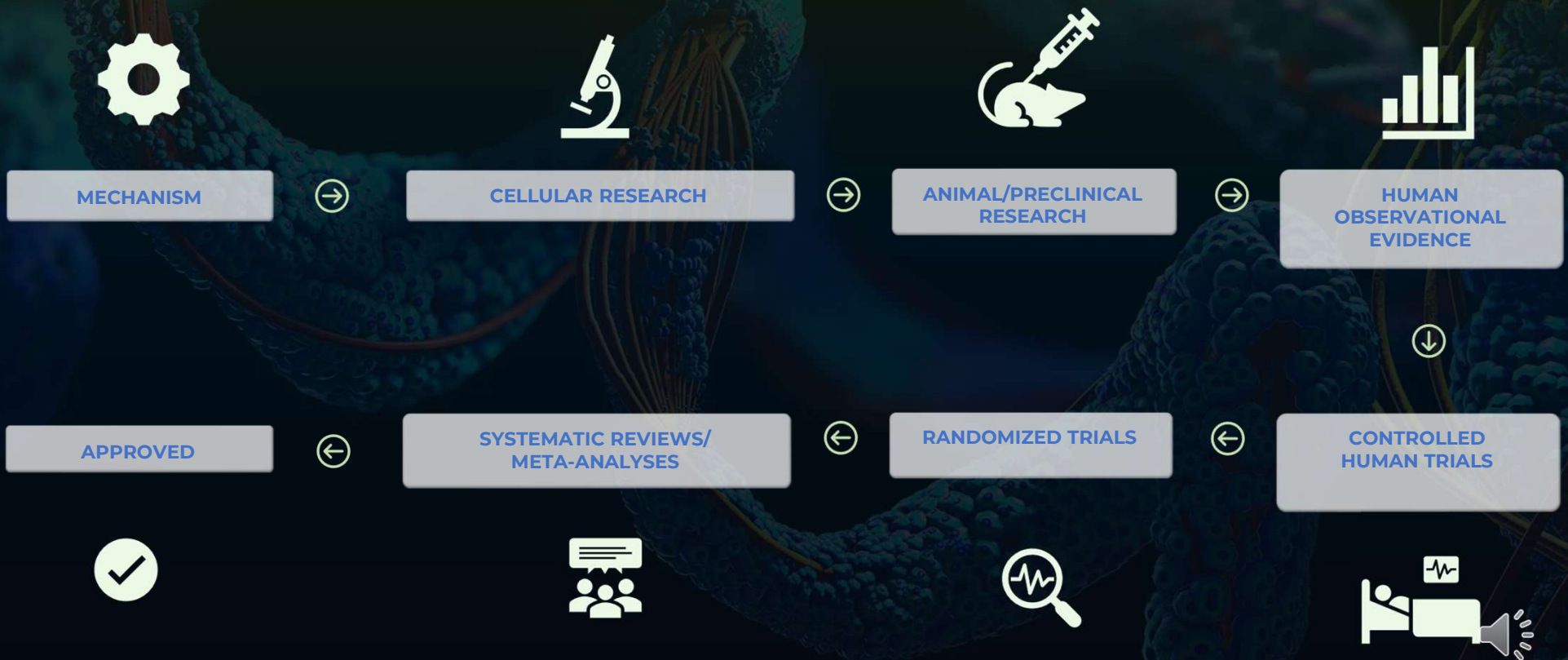
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WHAT DOES THE EVIDENCE ACTUALLY SHOW?



WHAT DOES THE EVIDENCE ACTUALLY SHOW?

Evidence Is Not One Thing



BIOLOGICAL PLAUSIBILITY IS NOT THE SAME AS DEMONSTRATED CLINICAL EFFICACY

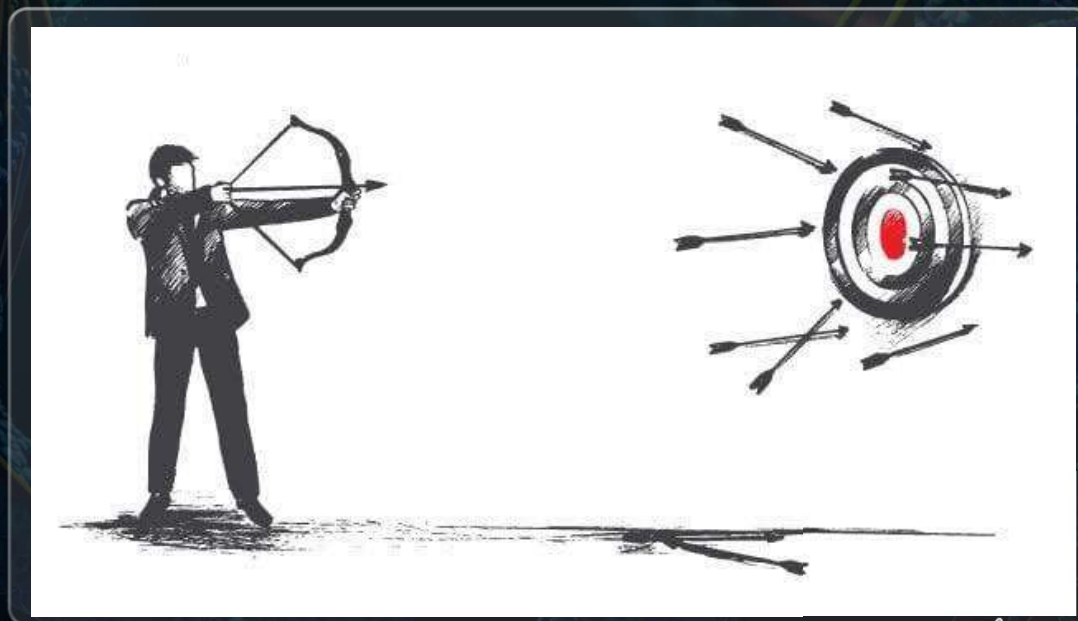


WHAT DOES THE EVIDENCE ACTUALLY SHOW?

Mechanism Does Not Automatically Equal Clinical Outcome

A peptide may affect the expected receptor or pathway and still fail to produce a meaningful human clinical outcome.

This is a key scientific distinction for a medical audience.





WHAT DOES THE EVIDENCE ACTUALLY SHOW?

Where Is the Evidence Strong?

STRONG EVIDENCE

Demonstrated clinical benefits in well-designed human studies.

BPC-157

Promising preclinical research in tissue repair and inflammation. Human studies remain small and preliminary.

TB-500 / THYMOSIN BETA-4

Research has explored wound healing and tissue repair, but evidence for marketed TB-500 products remains limited.

THE IMPORTANT DISTINCTION

Limited evidence does not mean ineffective. It means effectiveness and safety have not yet been adequately established.



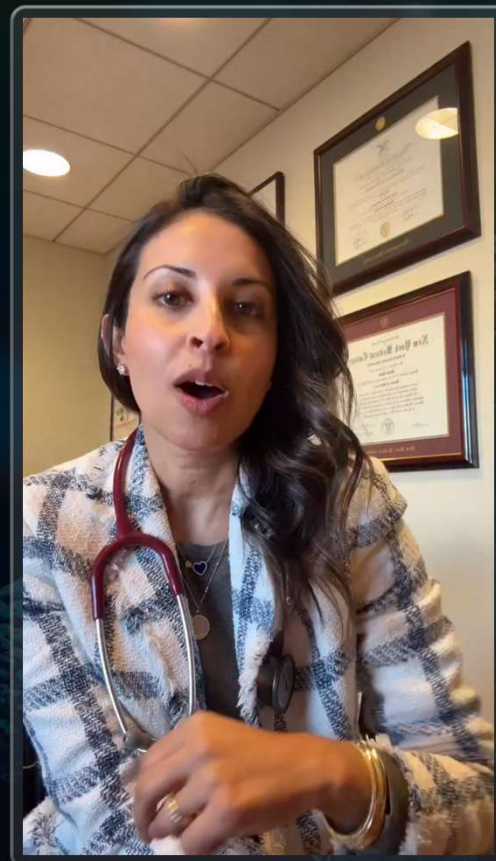


WHAT DOES THE EVIDENCE ACTUALLY SHOW?

Where Is the Evidence Emerging?

Show areas with promising but **incomplete human evidence.**

Clearly distinguish what has been demonstrated from what is still being investigated.



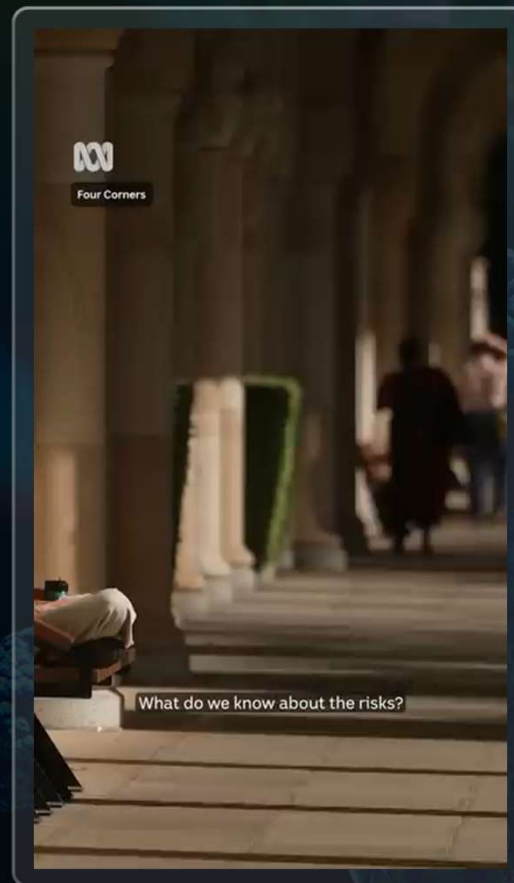


WHAT DOES THE EVIDENCE ACTUALLY SHOW?

Where Is the Evidence Limited?

Preclinical evidence, small studies, anecdotal reports or **insufficient long-term human data**.

No ridicule and no dismissal: simply here is what we know, and here is what we do not yet know.





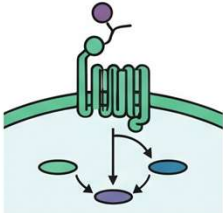
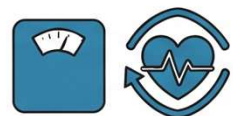
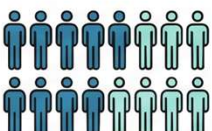
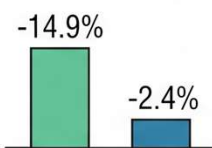
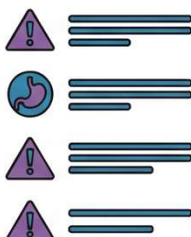
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CASE STUDIES: HOW SHOULD A CLINICIAN READ THE EVIDENCE?



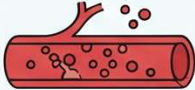
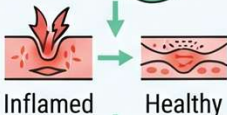
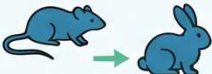
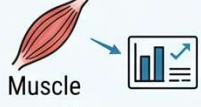
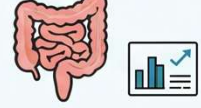
Case Study 1: An Established Peptide Therapeutic

Research basis: STEP 1 (NEJM, 2021); SELECT/FDA cardiovascular indication (2024).

MECHANISM	INDICATION	HUMAN EVIDENCE	CLINICAL OUTCOME	SAFETY	REGULATORY STATUS
<p>GLP-1 receptor agonist.</p>  <p>Influences appetite, gastric emptying and glucose-dependent metabolic signaling.</p>	<p>Chronic weight management in defined patients with obesity/over-weight.</p>  <p>Also has an FDA-approved cardiovascular-risk-reduction indication in a defined high-risk population.</p> 	<p>Large randomized trials.</p> <p>STEP 1 enrolled 1,961 adults.</p>  <p>SELECT enrolled more than 17,600 adults.</p> 	<p>STEP 1: average weight change about -14.9% vs -2.4% placebo at 68 weeks.</p>  <p>SELECT: major CV events 6.5% vs 8.0% placebo.</p> 	<p>Well-characterized safety profile. GI effects are common; contraindications and warnings require patient selection.</p>  	<p>FDA-approved. Indications, dose, route and safety requirements are defined in approved labeling.</p>  <p>Indications, dose, route and safety requirements are approved labeling.</p> 

Case Study 2: BPC -157 Another Emerging/Controversial Peptide

Research basis: 2024 interstitial-cystitis pilot; 2021 retrospective knee-pain report; 2025 systematic review; FDA Pharmacy Compounding Advisory Committee materials, July 2026.

PROPOSED MECHANISM	PRECLINICAL EVIDENCE	HUMAN EVIDENCE	CLAIMS BEING MADE	SAFETY / UNKNOWNNS	REGULATORY STATUS
<p>Proposed effects involve angiogenesis, nitric-oxide signaling, growth-factor pathways, inflammation and tissue repair.</p>  <p>Angiogenesis</p>  <p>Growth-factor facoeer</p>  <p>Inflamed → Healthy</p>  <p>Repair</p>	<p>Many animal studies report effects in tendon, ligament, muscle, bone and GI injury models.</p>  <p>Ligament</p>  <p>Muscle</p>   	<p>Very limited. Examples include a 12-patient interstitial-cystitis pilot and a small retrospective knee-pain report. No large definitive randomized efficacy program.</p>  <p>12 patients</p>  <p>Interstitial cystitis</p>  <p>retrospective</p> <p>NO</p> <p>Large randomized trial</p>	<p>Common claims include faster tendon/ligament healing, gut repair, less inflammation and faster recovery.</p>    <p>less</p>  <p>Recovery</p>	<p>Long-term human safety is not established. Product identity, purity, route and manufacturing quality remain important concerns.</p> <p>Long-term → ? → identity</p>  <p>OR</p> <p>Priority</p>  <p>Route</p>  <p>vs ?</p> <p>Manufacturing quality</p>	<p>Not FDA-approved. FDA reviewed BPC-157-related bulk substances in the 503A compounding context in July 2026.</p> <p>NOT APPROVED</p>   <p>503A COMPOUNDING</p> <p>JULY 2026</p>  <p>Bulk substances</p>

Interesting biology + early human signals are not the same as established clinical efficacy.



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SAFETY, QUALITY, REGULATION AND CLINICAL RESPONSIBILITY





SAFETY, QUALITY, REGULATION AND CLINICAL RESPONSIBILITY

What Does a Clinician Need to Know About Safety?





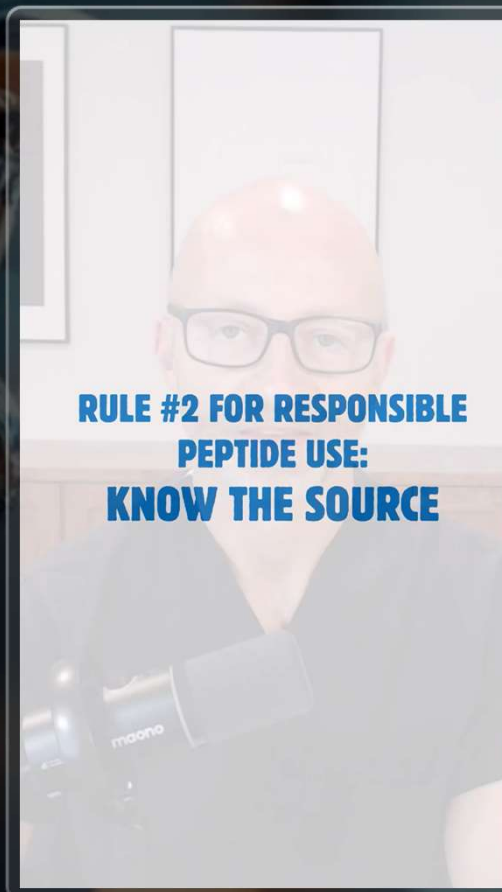
SAFETY, QUALITY, REGULATION AND CLINICAL RESPONSIBILITY

Quality Matters

General clinical considerations only:

- Identity and purity
- Sterility where applicable
- Stability and appropriate storage
- Consistency and appropriate testing
- Reliable sourcing
- Potency Concentration

EVIDENCE FOR A MOLECULE AND QUALITY OF THE ACTUAL PRODUCT ARE SEPARATE QUESTIONS. BOTH MATTER.





SAFETY, QUALITY, REGULATION AND CLINICAL RESPONSIBILITY

Regulatory Status Matters

Clearly distinguish approved, off-label, compounded, investigational and unapproved/research-use contexts.

Regulatory status and clinical evidence are related considerations, but they are not identical questions.





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BPC-157 and Cancer





What Is BPC-157?

BPC-157 (Body Protection Compound-157) is a synthetic peptide fragment derived from a protein found in human gastric juice. It has been extensively studied for its potential to support tissue repair, reduce inflammation, and promote healing throughout the body.



TISSUE REPAIR

Supports healing of muscles, tendons, ligaments, and the gut.



ANTI-INFLAMMATORY

Shown to modulate inflammatory pathways and reduce oxidative stress.



GUT HEALTH

Originally studied for its protective and regenerative effects on the gastrointestinal tract.



BPC-157 is a **15-amino acid** peptide sequence.

BPC-157 AMINO ACID SEQUENCE

15
AMINO
ACIDS



EXTENSIVELY STUDIED

Over two decades of research across multiple preclinical models.



WIDE APPLICATION

Explored for muscle, joint, neurological, and gastrointestinal health.



RESEARCH ONLY

For laboratory research use only. Not for human consumption.



SCIENCE. QUALITY. TRUST.



AMERICAN PEPTIDES

WHERE DOES THE CONCERN COME FROM?

There is no good human evidence demonstrating that BPC-157 causes cancer. However, there is a biological reason why the question gets asked.

Simple supporting points:

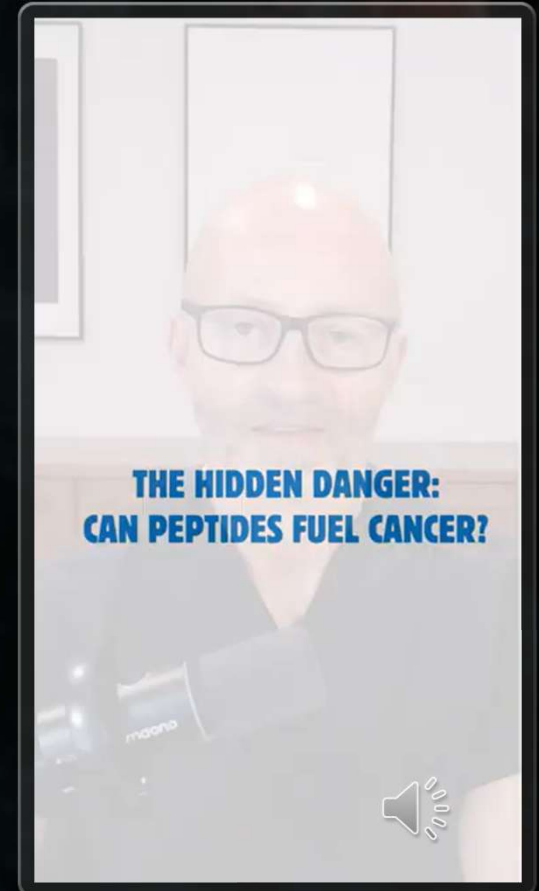
- BPC-157 has been studied for tissue repair and healing.
- Some of its proposed effects involve blood-vessel and repair signaling.
- Existing tumors can use some of those same biological pathways.

				
ACTIVATES VEGFR2 PATHWAY—A KEY DRIVER OF ANGIOGENESIS	NO HUMAN SAFETY DATA IN CANCER PATIENTS	PRECLINICAL DATA ARE REASSURING—BUT NOT SPECIFIC TO TUMOR PROMOTION	MAY BE ANGIOMODULATORY, NOT SIMPLY PRO-ANGIOGENIC	THE CRITICAL CANCER STUDIES HAVE NOT BEEN DONE



NOT PROVEN DANGEROUS. NOT PROVEN SAFE. THAT DIFFERENCE MATTERS.

AVOID BPC-157 IN ACTIVE CANCER, RECENT CANCER, PREMALIGNANT CONDITIONS, SUSPICIOUS LESIONS, OR **HIGH RECURRENT RISK**—UNLESS THERE IS A COMPELLING MEDICAL REASON AND YOUR ONCOLOGY TEAM IS INVOLVED.



THE PATHWAY BEHIND THE CONCERN



Tissue-repair signaling

BPC-157 activates multiple cellular pathways that trigger tissue repair and regeneration.



BPC-157



VEGFR2 → Akt → eNOS

BPC-157 upregulates the VEGFR2/Akt/eNOS pathway, which drives nitric oxide production and vascular health.



VEGFR2



Akt



eNOS

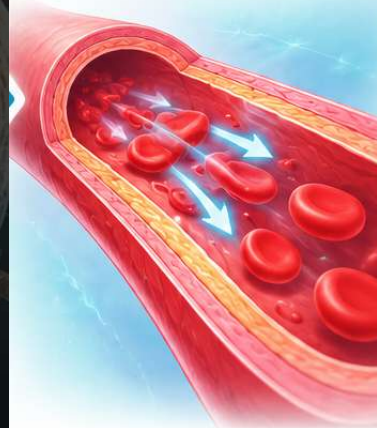


Nitric Oxide (NO)



Endothelial activity / blood flow

Increased nitric oxide production improves endothelial function, leading to better blood flow and tissue perfusion.



Angiogenesis — formation of new blood vessels

BPC-157 promotes angiogenesis, helping to form new blood vessels and support long-term tissue healing and recovery.



New blood vessels



- Cell proliferation
- Collagen production
- Tissue regeneration



- Improved endothelial function
- Enhanced microcirculation
- Better tissue oxygenation



- New vessel formation
- Improved nutrient & oxygen delivery
- Long-term tissue repair

An existing tumor may also use angiogenesis to obtain more oxygen and nutrients.

If the body is repairing damaged tissue, building new blood vessels can be useful. But an existing tumor can use blood vessels too.

CONCERN DOES NOT EQUAL CAUSATION

WHAT WE KNOW

BPC-157 affects repair and angiogenic signaling in preclinical research

WHAT WE DO NOT KNOW

We do not have adequate human oncology research showing whether BPC-157 accelerates an existing cancer.

WHAT HAS NOT BEEN DEMONSTRATED

There is no good human evidence showing that BPC-157 turns normal cells into cancer cells or initiates cancer

A THEORETICAL REASON FOR CAUTION IS NOT EVIDENCE OF CAUSATION.

In someone with an active malignancy, the limited evidence and the theoretical angiogenic concern are reasonable reasons for caution. That is very different from saying, "BPC-157 causes cancer."

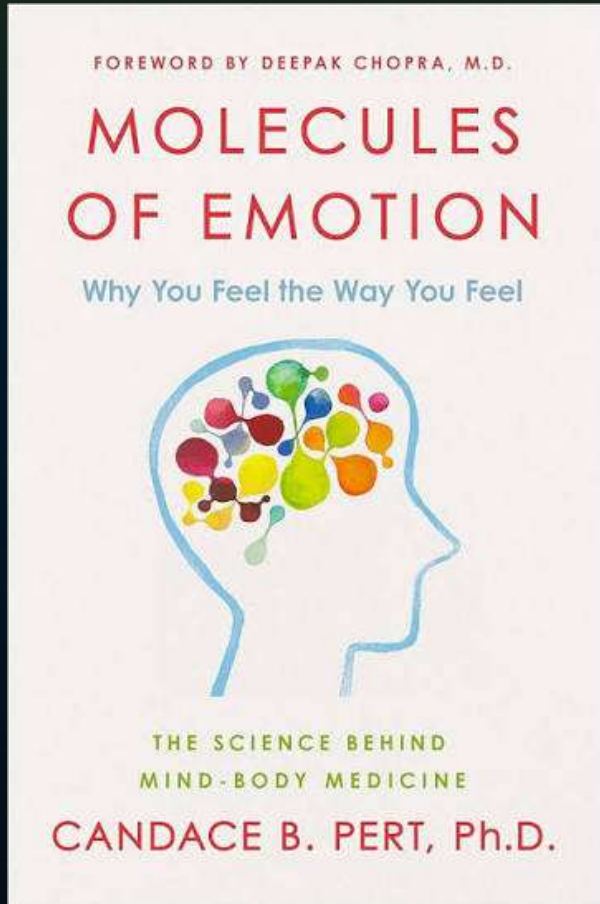


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MOLECULES OF EMOTION



What mediates the interaction of the Immune system with the brain?



In the 1970's, Candace Pert (1997) and others discovered that the brain secretes certain molecules called neuro peptides which help mitigate analgesia hormonal changes and response to stress resulting in illnesses.



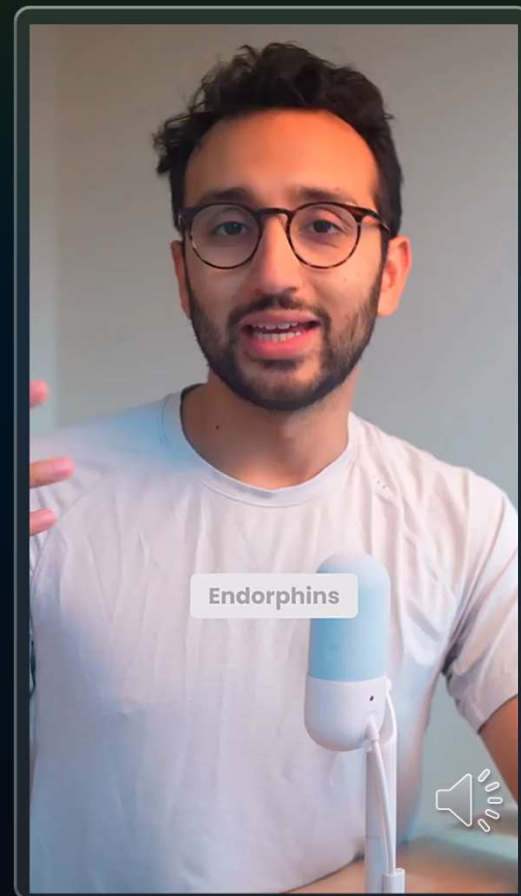
Amit Goswami - PHD - Quantum Doctor



MOLECULES OF EMOTION

Lock and Key mechanism Revisted

Among the well-known **Peptides** is the **endorphins** which taps specific receptor types in the Brain and the Body like a Lock and Key mechanism, and they can also alter our experience of pain and has been more covered in the popular press.





MOLECULES OF EMOTION

Endorphin called Methionine - Enkephalin

It was also discovered again in 1979 that certain components in the immune system, the key cell lymphocytes have receptors for an endorphin called Methionine - Enkephalin, this established conclusively that neuro peptides like endorphins are the mediators between the brain and the immune system.





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HOW SHOULD A CLINICIAN DECIDE?





HOW SHOULD A CLINICIAN DECIDE?

Seven Questions Before Considering a Peptide

01

WHAT EXACTLY IS THE PEPTIDE OR THERAPEUTIC?

02

WHAT IS THE PROPOSED MECHANISM?

03

WHAT CLINICAL OUTCOME ARE WE TRYING TO CHANGE?

04

WHAT HUMAN EVIDENCE SUPPORTS THAT OUTCOME?

05

WHAT ARE THE KNOWN RISKS AND IMPORTANT UNKNOWNNS?

06

WHAT IS ITS REGULATORY STATUS?

07

DOES IT MAKE SENSE FOR THIS PATIENT, IN THIS CONTEXT, AT THIS TIME?





HOW SHOULD A CLINICIAN DECIDE?

Closing: The Right Question

**The question is not: Are peptides good or bad?
The better questions are:**



WHICH PEPTIDE?



FOR WHOM?



FOR WHAT PURPOSE?



SUPPORTED BY WHAT EVIDENCE?



WITH WHAT POTENTIAL BENEFIT, RISK AND UNCERTAINTY?

CURIOSITY WITHOUT HYPE. CAUTION WITHOUT DISMISSAL.
FOLLOW THE EVIDENCE.





Questions?



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QUANTUM HEALTH PRACTITIONER



Thank You!

