# Sermorelin vs CJC-1295 vs Tesamorelin: What's The Difference? Transcript

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## Three GHRH Peptides Compared

Sermorelin, CJC-1295 and Sermorelin, CJC-1295 and Tesamorelin. They all Tesamorelin. They all interact with the interact with the same receptor same receptor in your pituitary in your pituitary gland, but gland, but the duration of that the duration of that interaction and the strength of the interaction and the strength of the signal are completely signal are completely different things. If you're different things. If you're trying to choose trying to choose between them or between them or understand why your understand why your doctor recommended doctor recommended one drug over one drug over another, these differences another, these differences matter.

matter. matter. Welcome Welcome Welcome back to the Dr. podcast. back to the Dr. podcast. Jones Optimization Academy. I am Jones Optimization Academy. I am Dr. Greg Knowles, a Dr. Greg Knowles, a naturopathic doctor and naturopathic doctor and founder of Innovative Wellness founder of Innovative Wellness Center here in Phoenix, Center here in Phoenix, Arizona.

Arizona. Arizona. Today we are Today we are comparing comparing : Sermorelin, CJC-1295 and : Sermorelin, CJC-1295 and Tesamorelin. Let me remind you, Tesamorelin. Let me remind you, these three peptides these three peptides work through the work through the same same same pituitary pathway—the growth hormone-releasing hormone receptor. But by the end of growth hormone-releasing hormone receptor. But by the end of this video, you'll this video, you'll know where know where they came from, how they came from, how their their their half-lives compare, and perhaps the, and perhaps the most popular most popular most popular question: which one question: which one elicits the greatest elicits the greatest IGF-1 response. We're not IGF-1 response.

## Origin and History of Each Peptide

We're not turning this into a turning this into a scientific seminar, we're scientific seminar, we're doing a comparative doing a comparative analysis that you analysis that you can actually can actually use. Let's start use. Let's start with where they with where they came from, because came from, because the chronology says a lot the chronology says a lot about about about how mature this how mature this science is. Sermorelin is the oldest of the three the oldest of the three by a wide margin.

by a wide margin. It is a synthetic It is a synthetic fragment of the natural fragment of the natural hormone that releases hormone that releases growth hormone. It growth hormone. It mimics the first 29 mimics the first 29 amino acids of a hormone amino acids of a hormone that your hypothalamus that your hypothalamus already produces. It was already produces. It was researched and researched and approved in the 1990s approved in the 1990s under the brand name under the brand name Serostim. Initially as a Serostim. Initially as a diagnostic diagnostic diagnostic tool to tool to test whether a patient's pituitary gland could patient's pituitary gland could respond to GHRH at all. So, respond to GHRH at all. So, imagine the original imagine the original GHRH molecule as a long GHRH molecule as a long instruction manual.

instruction manual. Sermorelin is the Sermorelin is the short version, the first short version, the first third, the part third, the part that directly that directly gives instructions gives instructions to the pituitary gland. It is not to the pituitary gland. It is not foreign to foreign to your body. This is a your body. This is a shortened copy of what shortened copy of what you are already producing.

you are already producing. Then came CJC-1295, Then came CJC-1295, developed in the developed in the mid-2000s to mid-2000s to solve the problem with solve the problem with Sermorelin. Your Sermorelin. Your body body body breaks down Sermorelin very quickly, within 10–12 minutes,, within 10–12 minutes, using an enzyme using an enzyme called DPP-4.

called DPP-4. The researchers changed The researchers changed four amino acids four amino acids on the same on the same GHRH backbone to make it GHRH backbone to make it more resistant to this more resistant to this

cleavage. This cleavage. This modified version, modified version, sometimes called sometimes called modified GRF 1-29, is modified GRF 1-29, is now now now used in used in most clinical most clinical protocols. And protocols. And Tesamorelin is the newest and, in the newest and, in some ways, the some ways, the most most most advanced of the advanced of the three. It is a longer three. It is a longer GHRH analog, 44 GHRH analog, 44 amino acids instead of amino acids instead of 29, with a chemical 29, with a chemical modification that modification that protects it from the protects it from the same enzyme. It has same enzyme. It has undergone full undergone full FDA testing and was FDA testing and was approved in 2010 approved in 2010 for a very specific for a very specific purpose, which we will purpose, which we will discuss in a minute.

discuss in a minute.

## FDA Approval Status Explained

So, if you're wondering So, if you're wondering how they're doing with how they're doing with FDA approval, here's what FDA approval, here's what you need to know.

you need to know. Sermorelin was Sermorelin was approved. The past approved. The past tense is important here. tense is important here. It has been It has been approved under the name approved under the name Geref since Geref since 1997 for the diagnosis of growth hormone deficiency in children.

growth hormone deficiency in children. The manufacturer discontinued The manufacturer discontinued this this this branded product branded product in 2008 for in 2008 for commercial reasons, commercial reasons, not not not safety concerns. And safety concerns. And the following year, the FDA the following year, the FDA officially withdrew officially withdrew its approval. So, its approval. So, today, every dose of today, every dose of Sermorelin you Sermorelin you come across is custom-made custom-made. It is legal,. It is legal, but it is no longer a but it is no longer a finished product finished product approved by the FDA.

approved by the FDA. Tesamorelin is a Tesamorelin is a drug that has drug that has active current active current FDA approval under the brand FDA approval under the brand name Egrifta.

name Egrifta. It was approved in It was approved in 2010 to reduce 2010 to reduce visceral fat in visceral fat in HIV patients with a HIV patients with a condition condition condition called lipodystrophy. This is still the only. This is still the only approved indication.

approved indication. So everything else So everything else it's used for, it's used for, including including including fat loss, fat loss, body composition improvement, and body composition improvement, and deep sleep, deep sleep, is technically an is technically an off- off- off- label use. As for CJC- 1295, it has never, at any 1295, it has never, at any time, had time, had FDA approval for any indication. For a any indication. For a time, it time, it was also on the FDA's was also on the FDA's Restricted Category Restricted Category #2 list for manufacturing, #2 list for manufacturing, meaning pharmacies meaning pharmacies technically couldn't technically couldn't manufacture it. This manufacture it. This restriction was restriction was lifted in September lifted in September 2024. And at the time of 2024. And at the time of writing this writing this report, there is an active report, there is an active discussion about discussion about further further further easing the rules for easing the rules for peptide manufacturing. But “ legal to manufacture” legal to manufacture” and “FDA approval” are two and “FDA approval” are two very different things, and very different things, and CJC-1295 has never been the CJC-1295 has never been the former.

former. former. Think of it like a Think of it like a driver's driver's driver's license. license. license. Tesamorelin currently Tesamorelin currently has an active and valid has an active and valid license. So, license. So, sermorelin had sermorelin had a license, let it a license, let it expire, but has expire, but has conditional permission conditional permission to continue to " operate". And CJC-1295 has operate".

## Half-Life and Dosing Timing

And CJC-1295 has never had never had a license and operates in a " gray area," rather than gray area," rather than under permit. Now under permit. Now let's talk let's talk about how long each about how long each of these

remains of these remains active in your active in your body, as this is where clinical decisions are made.

clinical decisions are made. So, imagine three So, imagine three ways to convey a ways to convey a message to someone. message to someone. Tesamorelin is like a Tesamorelin is like a shout across the shout across the room. It's loud, room. It's loud, it's instant, it's gone it's instant, it's gone in seconds. CJC-1295 in in seconds. CJC-1295 in the form that the form that most pharmacies prepare is most pharmacies prepare is more like a more like a phone call phone call that lasts a little that lasts a little longer. Now, CJC-1295 longer. Now, CJC-1295 is like a phone is like a phone call that lasts call that lasts about the same amount of about the same amount of time, but time, but the other person the other person the other person speaks louder and is speaks louder and is more precise in their more precise in their communication. So, communication. So, let's delve let's delve into this a little more. The half. The half -life of CJC-1295 -life of CJC-1295 is approximately is approximately 10-12 minutes. It 10-12 minutes. It is broken down almost is broken down almost as quickly as it as quickly as it is absorbed, which is why is absorbed, which is why it is administered it is administered at night to coincide at night to coincide with the short window when growth hormone when growth hormone is produced or is produced or pulsatile pulsatile pulsatile naturally. CJC-1295 in naturally. CJC-1295 in the short-acting form used by used by most clinics today has a most clinics today has a half-life of half-life of around 30 minutes, which is a around 30 minutes, which is a noticeable jump noticeable jump over CJC-1295, but still short enough to short enough to maintain a pulsatile maintain a pulsatile nature instead of a nature instead of a constant, flat constant, flat increase.

increase. increase. Most of you have heard Most of you have heard of CJC-1295 with DAC, a of CJC-1295 with DAC, a drug affinity complex that extends drug affinity complex that extends its its its half-life for a very half-life for a very long time, for long time, for days. The problem is days. The problem is that you lose this that you lose this pulsating rhythm, which pulsating rhythm, which can cause can cause unwanted or unwanted or excessive increases in excessive increases in IGF-1 levels and actually IGF-1 levels and actually blunt your blunt your natural natural natural growth hormone pulses. But, growth hormone pulses. But, to be clear, to be clear, this long- this long- acting version was studied acting version was studied back in initial back in initial human clinical trials in 2006.

human clinical trials in 2006. Again, the Again, the half-life half-life half-life was measured in days, was measured in days, not minutes. This is not the not minutes. This is not the version that is typically version that is typically prescribed to prescribed to prescribed to patients, and the two patients, and the two options should not options should not be considered be considered be considered interchangeable.

interchangeable. interchangeable. So, tesamorelin has a So, tesamorelin has a half-life of half-life of about 26-38 minutes, about 26-38 minutes, similar to CJC-1295, but with a more similar to CJC-1295, but with a more potent potent potent release of IGF-1. We release of IGF-1. We will look at this further in the will look at this further in the next section. I next section. I understand. Choosing understand. Choosing supplements can be a supplements can be a daunting task.

daunting task. There are hundreds of There are hundreds of brands, conflicting brands, conflicting claims, and it's impossible claims, and it's impossible to know what's to know what's actually quality and actually quality and what will really impact what will really impact your health. That's your health. That's why I created Dr. Jones Supplement Store. Every Dr. Jones Supplement Store. Every product in the store product in the store for energy, for energy, gut health, gut health, sleep, sleep, sleep, hormone optimization, hormone optimization, recovery, and recovery, and more is personally more is personally reviewed, reviewed, reviewed, tested, and tested, and recommended by me.

recommended by me. These are the drugs that I These are the drugs that I use and use and recommend to my recommend to my patients, friends, and patients, friends, and family. So go family. So go to drjonesseupplements.com, to drjonesseupplements.com, sign up for our sign up for our newsletter, and you'll newsletter, and you'll get 10% off get 10% off your first your first order. You will also order. You will also receive receive receive exclusive exclusive exclusive protocols and tips protocols and tips that I share only that I share only with my community.

with my community.

## Which Peptide Boosts IGF-1 Most

So, So, So, let's cut through the noise and let's cut through the noise and choose what really choose what really works. So which one has the works. So which one has the greatest greatest greatest impact on IGF -1 levels? This is a question -1 levels? This is a question I get asked I get asked all the time, and the honest all the time, and the honest answer depends answer depends on what on what study you study you are looking at, not are looking at, not just what just what peptide it is. So, peptide it is. So, starting with starting with tesamorelin, tesamorelin, tesamorelin, the clearest the clearest human research data human research data comes from two comes from two older trials. In older trials. In one of them, in 1992, one of them, in 1992, men aged 60-70 were given were given GHRH injections for 2 weeks, which GHRH injections for 2 weeks, which allowed them to allowed them to reverse the age-related reverse the age-related decline in decline in growth hormone and IGF-1 levels. A second study in. A second study in 1997 lasted 16 1997 lasted 16 weeks with nightly weeks with nightly dosing in dosing in men and women men and women aged 50 to 70, and again, and again found significant found significant increases in increases in growth hormone and IGF-1, along growth hormone and IGF-1, along with significant with significant increases in muscle increases in muscle mass in men, mass in men, averaging about averaging about 1.25 kg. Tesamorelin 1.25 kg. Tesamorelin is the is the most reliable most reliable of the three of the three options in this data, as options in this data, as it has undergone full it has undergone full FDA pharmacokinetic trials. At FDA pharmacokinetic trials. At a dosage of 2 mg during a dosage of 2 mg during the trials, the trials, IGF-1 levels approximately IGF-1 levels approximately doubled by doubled by day 14 compared to day 14 compared to baseline.

baseline. baseline. Let's finish with Let's finish with CJC-1295, and this is where I have to CJC-1295, and this is where I have to be most be most careful, because this is the careful, because this is the nuance that is nuance that is usually ignored in usually ignored in most online comparisons. The comparisons. The published published published clinical studies that demonstrate that demonstrate significant sustained significant sustained increases in IGF-1 of increases in IGF-1 of one and a half to three fold one and a half to three fold over two over two weeks weeks weeks use the use the use the long-acting version long-acting version of the molecule I of the molecule I mentioned, not mentioned, not the short-acting version that is the short-acting version that is currently manufactured currently manufactured and prescribed. The and prescribed. The short-acting version short-acting version works with the same works with the same receptor and almost receptor and almost certainly increases certainly increases IGF-1 levels, but there are IGF-1 levels, but there are no separate no separate clinical studies that measure that measure exact results. This is exact results.

## Dosing Protocols and Ranges

This is not a criticism of the drug, not a criticism of the drug, but an honest gap but an honest gap that you should be that you should be aware of before aware of before assuming that the high-profile assuming that the high-profile numbers from the studies numbers from the studies apply to what's in apply to what's in your bottle. Now, when it comes to, when it comes to dosage, things get dosage, things get a little more complicated, a little more complicated, as you will see as you will see different concentrations different concentrations depending on the source depending on the source and the specialist you and the specialist you consult. For consult. For sermorelin, the sermorelin, the sermorelin, the standard dosage standard dosage for general for general longevity is longevity is 150 to 300 150 to 300 micrograms, but in micrograms, but in bodybuilding you bodybuilding you may see higher may see higher doses—over 500 doses—over 500 micrograms and up to the micrograms and up to the milligram. The main thing to milligram. The main thing to know about know about sermorelin: due to its sermorelin: due to its short short short half-life, you half-life, you may encounter may encounter protocols that protocols that recommend taking it recommend taking it two to three times a day.

two to three times a day. For CJC-1295, the most common For CJC-1295, the most common dosage indicated is dosage indicated is around 100 around 100 micrograms, however, I micrograms, however, I have seen protocols have seen protocols focused on focused on better body composition where better body composition where the drug is administered the drug is administered multiple times per day.

multiple times per day. Tesamorelin Tesamorelin Tesamorelin has been used in clinical trials at a dose of has been used in clinical trials at a dose of 2 mg, and many 2 mg, and many protocols we protocols we see recommend see

recommend 1 mg. But many 1 mg. But many complain of complain of joint pain, joint pain, headaches, and water retention headaches, and water retention at such high at such high doses. Because of this, doses. Because of this, doctors may doctors may recommend lower recommend lower doses, in the range of doses, in the range of 250 to 500 micrograms, 250 to 500 micrograms, to avoid these to avoid these effects. The key to effects. The key to all of this is all of this is that that that dosing protocols should be dosing protocols should be individualized, individualized, individualized, so work with so work with a professional who a professional who understands your body understands your body and these peptides to and these peptides to make the right make the right decision. And now, decision.

## Side-by-Side Comparison

And now, finally, let's compare finally, let's compare them with each other. them with each other. Tesamorelin, which has Tesamorelin, which has the shortest the shortest half-life of the half-life of the three, works through a three, works through a natural fragment of natural fragment of GHRH and creates GHRH and creates the mildest, most the mildest, most physiological physiological growth hormone surge in this group. CJC- 1295 in the form 1295 in the form used used used clinically has a clinically has a moderate moderate moderate half-life. It is half-life. It is built on the same built on the same GHRH framework with four GHRH framework with four modifications modifications modifications designed to be designed to be resistant to resistant to enzymatic enzymatic enzymatic cleavage. And cleavage. And tesamorelin has a tesamorelin has a similar half-life to CJC-1295 similar half-life to CJC-1295, being a, being a longer structurally longer structurally unique molecule unique molecule with its own with its own specific specific specific modification. And modification. And it is certainly it is certainly the drug with the most the drug with the most in-depth and in-depth and carefully measured carefully measured data on IGF-1 levels of data on IGF-1 levels of all three.

all three. Although these data were obtained Although these data were obtained on a smaller group of on a smaller group of patients than those to patients than those to whom this drug is whom this drug is prescribed today. So, none of these. So, none of these drugs is drugs is clearly better than the clearly better than the others on its own. These are others on its own.

## Which Peptide Is Right for You

These are different tools with different tools with different evidence different evidence bases and different bases and different objectives, depending objectives, depending on what exactly you on what exactly you and your doctor and your doctor are trying to achieve.

are trying to achieve. And what is my personal And what is my personal opinion? I am not a big opinion? I am not a big fan of fan of fan of semorelin because of semorelin because of its its its half-life and half-life and also because people also because people often complain about often complain about appetite and constant appetite and constant hunger while hunger while taking it. CJC- 1295 is a great “ gold standard.” I gold standard.” I see better see better results in results in muscle building and muscle building and recovery with recovery with this form.

this form. Tesamorelin may Tesamorelin may be a better be a better option for people with option for people with increased levels of increased levels of visceral fat visceral fat who need to who need to lose more weight.

lose more weight. But I am more likely But I am more likely to see side to see side effects like effects like water retention and water retention and joint pain when joint pain when using this using this peptide. Especially when peptide. Especially when using higher using higher doses. What is clinically interesting doses. What is clinically interesting is that some is that some patients say they patients say they feel better on feel better on it than on CJC-1295, and it than on CJC-1295, and vice versa. This is why it is vice versa. This is why it is important to monitor important to monitor your well-being your well-being while taking these while taking these peptides. So, if you’ve peptides. So, if you’ve been trying to figure out which of these three which of these three peptides is peptides is right for you and have been told they’re all the same, the differences, the differences we’ve we’ve we’ve covered today may covered today may be a key be a key piece of the puzzle worth exploring.

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watching. watching. Dr. Greg Jones was with you, Dr. Greg Jones was with you, see you in the see you in the