FORMULATOR'S GUIDE

Peptides + Ceramides in Haircare

A practical guide to ingredient selection, evidence, and formulation

by Joan Morais



IN THIS GUIDE

Compare ceramides, hydrolyzed proteins, and specialty peptides for hair fiber and scalp applications.

Different Ingredients, Different Functions

Hair-fiber conditioning and scalp biology are distinct goals. Ceramides are lipids; hydrolyzed proteins contain peptide mixtures; specialty peptides target different pathways.

Why Formulators Choose Them

Ceramides can help replenish and support the hair's protective lipid layer, hydrolyzed proteins can improve hair's feel, smoothness, and surface condition, and selected specialty peptides may help support scalp care.

How to Interpret the Evidence

- A lower combing force or less breakage is not proof of hair growth.
- Compare supplier studies with independent studies when available.
- Review the sample size, controls, and study duration.
- Check exactly what benefit or result was measured.

Hair Fiber vs. Scalp Applications

Choose ingredients and performance claims based on whether you want to condition the hair fiber or develop a scalp-focused product. Supporting evidence for one goal does not automatically establish the other.

JOAN'S FORMULATION NOTE

Always verify the exact INCI, commercial active concentration, processing conditions, and supplier study design. A raw-material use level is not the pure active concentration. Do not extend ingredient claims to the finished product without testing.

Ingredients at a Glance

Compare the potential benefits of each ingredient type and where it may be most useful in a hair or scalp product.

Ingredient	Potential benefit	Best fit
Ceramide NP / ceramide complexes	Hair fiber lipid-conditioning concept; scalp barrier support	Masks, leave-ins, conditioners; scalp care
Hydrolyzed rice/pea/quinoa protein	Film formation and conditioning; some grades reduce breakage	Conditioners, leave-ins, treatments
Hydrolyzed plant keratin	Fiber affinity and conditioning; confirm it is **plant-derived** unless specified otherwise	Repair masks, conditioners
Biotinoyl Tripeptide-1	Marketed for fuller-looking hair and scalp care	Leave-on scalp serum
Copper Tripeptide-1	Investigated in follicle biology and scalp/skin research	Scalp serum
Acetyl Tetrapeptide-3	Marketed in hair-density complexes	Scalp serum

FORMULATION & CLAIMS TIP

Evaluate the exact commercial grade and its supporting evidence. Improvements in conditioning, combing, or breakage do not by themselves demonstrate hair growth. Test finished-product performance before making claims.

Which Should You Choose?

- For damaged hair masks: prioritize the conditioning base; then evaluate a ceramide complex or hydrolyzed protein.
- For vegan leave-ins: compare plant protein hydrolyzed proteins and documented ceramide systems.
- For scalp serums: select peptides only when their evidence matches your intended claim.

Formulator’s Decision Guide

Use this checklist before selecting and formulating with ceramides, protein hydrolysates, or specialty peptides.

- □ Define the product goal and measurable performance claim.
- □ Confirm exact INCI, supplier identity, active concentration, carrier, and vegan status.
- □ Read supplier use level, pH, solubility, heat tolerance, and phase instructions.
- □ Review human evidence, controls, sample size, duration, and conflicts of interest.
- □ Test against a control formula without the specialty ingredient.
- □ Complete stability, preservation, packaging, and safety testing.

Key Points

REMEMBER

Choose by hair-fiber versus scalp objective. Neither “peptide” nor “ceramide” guarantees a measurable benefit without suitable delivery and testing.

LEARN MORE

Read the full Peptides + Ceramides in Haircare article in the three-part educational series **at www.JoanMorais.com.**

Explore professional cosmetic formulation training and make the Plant Keratin Shampoo and Conditioner Formulation in the Professional Hair Care Formulation Course at www.JoanMorais.com.

Educational reference by Joan Morais. Verify supplier documentation, product safety, stability, preservative efficacy, and claims before commercialization.