

**CAMPO HYDRIN 1, CAMPO HYDRIN 2
NOVEL ACTIVE INGREDIENTS FOR
SUBSTANTIVE NEW YOUNG SKIN-
COLLAGEN BUILD-UP FORMATION
AND COLLAGEN REPLENISHING
MECHANISM
(ISOLATED FROM SONGYI MUSHROOM)**



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CAMPO® Multi-Purpose Cosmetic Base Chemicals & Active Ingredients

CAMPO® Novel Functional Active Cosmetic Ingredient & Raw Materials

Campo Research Product Literature

CAMPO TRUE HUMAN SKIN IDENTICAL SOLUBLE HYDRINS II (SONGYI MUSHROOM ISOLATE)

What is Hydrin I and II (ex-Songyi mushroom isolate) ?

Corium layer of the human skin (i.e. the dermis) contains collagen which is the principal protein constituent of the connective tissues, skin, tendon and bone. The corium layer, for example consists of 90 to 95% collagen, on dry basis; and the important pre-cursors and their functional catalysis for the water-electrolyte regulation, water-balance activity and hydro-osmotic activity are peptides - amino acid residues cross-linked to vasotocin are known as **Hydrins - a sub-micro-molecule**.

Hydrins are also known to exist in other kingdoms such as plant kingdom - succulent vegetables, mushrooms and plants, and in animal kingdom - amphibians, etc.

Hydrins I forms the basis of the skin's acid mantle and Hydrins II forms the basis of moisture-barrier of the skin's corium layer. Both Hydrins I and II are uniquely involved with the replenishing build-up of new collagen formation (conversion of procollagen to collagen), maintenance of collagen, maintenance of the optimal healthy skin conditions and skin-healing.

Cross-linked vasotocin (a neuro peptide) which is a messenger chemical from the pituitary glands to the skin with instruction to form Hydrins - a small penetrative molecule on contact with dermis and epidermis to replace loss (aging adults) or form new Hydrins (as in young adults).

A spontaneous function of formation/build-up of new collagen as structural links) takes place when new Hydrins are formed.

This thereby results in better skin elasticity and firmness of the skin

In-vitro studies have shown neutral salt soluble and/or alkaline soluble collagen fibers and acid soluble collagen may be an intermediate phase in the **Hydrins based formation/build-up**. These **formation/build-up** contain collagen in its monomeric form (tropocollagen) which structurally consists of three helical polypeptide chains wound round each other to form a coil. In in-vitro assays, Hydrins assisted/formed tropocollagen behaves as a rigid rod with molecular weight of approximately 350,000 a diameter of 14°A and a length of 3,000°A irrespective of its source (human, animal, or plant).

Optical rotation, viscosity and ultra-centrifugation studies have demonstrated that **Campo Hydrins** assisted collagen **formation / build-up** possess the characteristics of tropocollagen with high viscosity, structural tensile strength and high optical rotation values of human skin **collagen**, thereby augmenting skin (skin augmentation).

Hydrins - (small penetrative molecules) assisted collagen formation/ build-up produces a pronounced and immediate effects when Hydrins included in skin care compositions, leaving the skin feeling smooth and velvety. The **Hydrins based replenished collagen build-up** is complex triple helix structure gives it high moisture retention properties. And greatly increased the skin elasticity and firmness.

Hydrins on its own acts to impart lasting moisturization and a silk-smooth feel; and acts to provides protective colloidal structural firmness and as a barrier against water-loss. Campo Hydrins are designed to be replacement of non-functional collagen macromolecules in a topical cosmetic formulation as the collagen are of large structure and do not penetrate the skin to provide any benefits from within the skin in augmenting the skin-firmness.

Hydrins acts as a reservoir, improving elasticity and combating dry flaky skin conditions.

Campo Hydrins are originally designed and sold exclusively for a major cosmetic brand in Japan (1994) and is the novel mushroom-derived non-animal replacement for **Bovine Serum Albumins (B.S.A)** (Comparisons secondary screening evaluation assays and in-vitro screening evaluation available on request.)

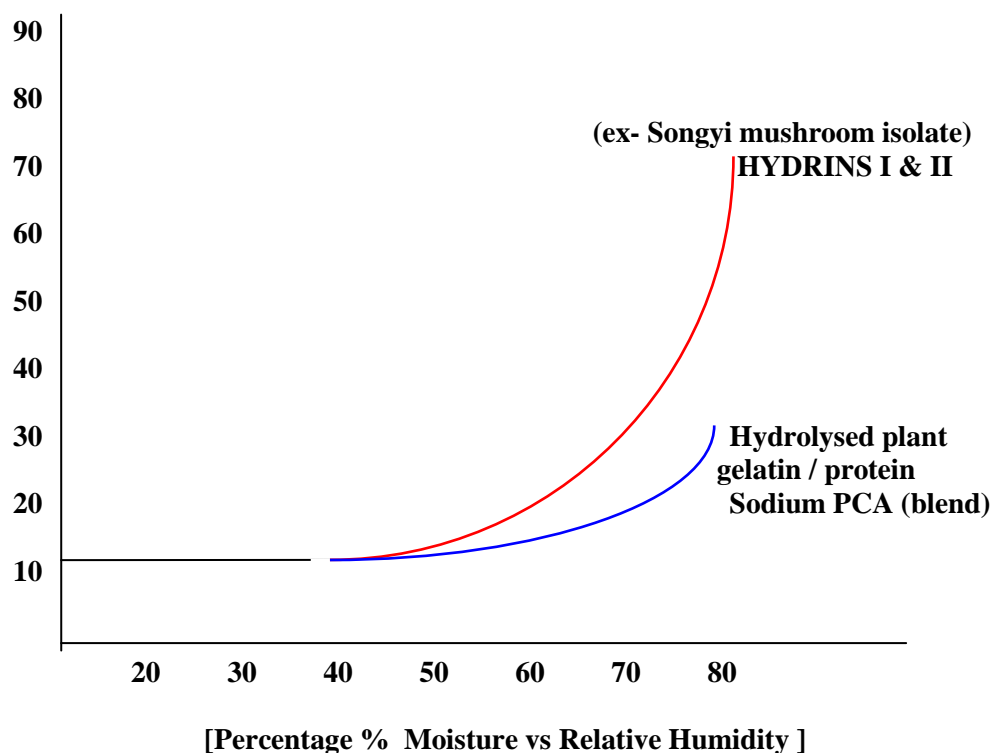
STRUCTURE

((Arg8;Gly 10;) – Vasotocin) H-Cys – Tyr – Ile – Gln – Asn – Cys – Pro – Arg – Gly – Gly -Lys – Arg- OH

Characteristic

Moisture retention

The following graph illustrates the water retention properties of Hydrins I & II, compared with a typical hydrolysed plant gelatin / protein and sodium PCA combination blend.



Campo Hydrins are novel entities solubilised in purified water and stabilised with natural hydroxy-ceramides to easy formulating procedures and for formulating a highly immediately – consumer perceivable cosmetic skin-moisturizing formulations.

Method of Mfg.: Isolation of songyi mushroom

CAMPO HYDRINS I

pH (20°C) (100% Concentrate)	5.0 – 7.8
Dry weight	55.0 – 70.5 %
Specific gravity	1.010 1.300
Refractive index	1.200 – 1.450
Color	Turbid cloudy transparent to clear colorless
Appearance	Liquid solution

CAMPO HYDRINS II

pH (20°C) (100% Concentrate)	4.5 – 6.5
Dry weight	55 – 70.5 %
Specific gravity	1.000 1.200
Refractive index	1.200 – 1.450
Color	Turbid cloudy transparent to clear colorless
Appearance	Liquid solution

Product Formulations – application dosages:

Moisturizers	5 - 50%
Wrinkle cream	5 - 50%
Shampoos	3 - 40%
Eye creams	3 - 40%