

Our Chiral Glossary

As part of *responsible* and *conscionable* manufacturing standards, wherever necessary, each ingredient in Kyra™ has been separated into its safe and highly effective optically correct form. As such, our formulae are comprised of ingredients that have been separated at a molecular level so that only their right side (D) or their left side (L) is present.

This leading-edge approach to protecting the integrity of your body definitely makes for more expensive manufacturing, but the global need for this caliber of product is acute, and the exciting anti-aging results speak for themselves!

ALLANTOIN Allantoin is a component of the plant known as **Comfrey**, and contributes **13,000 parts per million (PPM)** to the plants overall chemistry. This extremely optically active extract is a powerful anti-inflammatory, as well as a wound healing accelerator and a psoriasis preventative.

ALOE (D-COMPLEX) We use only the best optically correct components of aloe, making the results worthy of the legends about this native desert dweller. **D-mannose-phosphate** is the component with the amazing healing properties, while **D-hydroxy-chromone** and **D-methyl-phytyl-chromanol** act as antioxidants, and **D-methy-tocol** lends an anti-inflammatory attribute.

APRICOT OIL Apricot Oil contains **L-amygdalin** (anti-inflammatory and cancer-preventive); **L-beta-sitosterol** (anti-inflammatory and anticancer); and Squalene, which exhibits lipid-peroxidation inhibitor and anti-tumor factors.

BALM MINT Calming "Chiroma-therapy" with **L-caryophyllene**, **L-citronellal**, **L-citronellol**, **L-cadinene**.

BERGAMOT Tonic "Chiroma-therapy" with **l-camphene**, **l-alpha-pinene**, **l-pulegone**, **l-limonene**.

BERRY POLYSORBATE Sourced from either berries as a polymer of **D-glucitol** or as a fatty acid from vegetables, this ingredient enhances the skins own natural emulsifiers.

BERRY SORBITOL Also known as **D-Glucitol**, this Mountain Ash berry extract acts as a humectant (moisturizing principle), imparting right-handedness to the Castor Oil Methyl Glycol component of the formula for increased effectiveness. It also has interlocking ability with glycerin.

BUTCHERS' BROOM EXTRACT Sourced from the lily family, this extract contains the very special **L-rutin** from the quercetin family of plant pigments. **L-rutin** is known for being an "anti-capillary-fragility" factor, and shares in quercetin's attributes in all respects!

CALENDULA EXTRACT Calming and soothing to the skin, Calendula Extract contains the anti-inflammatory **L-beta-sitosterol**, the anti-peroxidant and anti-inflammatory **D-lupeol**, and **L-rutin** which is an anti-capillary-fragility factor.

CAPRIC FATTY ACID Derived from dairy butter, this moisturizing component improves the permeability barrier of the stratum corneum.

CAPRYLIC FATTY ACID This moisturizing component of milk fat conditions the glycoproteins responsible for connecting epidermal cells. It is also anti-fungal.

CASSIA BETAGLYCAN Derived from Cassia bark, its left-handed constituent, **D-catechin**, boosts immunity while the betaglycan calms skin during immune reactions.

CASTOR BEAN LIPIDS These hydroxy fatty acids, similar to those found in the nervous and immune systems of the human body, improve cell to cell communication and signaling, as well as immunity.

CASTOR OIL METHYL GLYCOL This is castor oil's contribution to chirally correct propylene glycol formulating. The emollience of castor oil is enhanced by the "slide" of propylene.

CASTOR OIL SUBERATE This suberic acid from oxygenated castor oil reduces competition between sebaceous and systemic fatty acids in acne.

CETEARYL POLYGLUCOSE These fatty acids and sugars sourced from the yolk of eggs, emulsify and suppress peroxidation of epidermal lipids when utilized in this polymeric form.

CHAMOMILE (L-COMPLEX) Our L-complex from chamomile is comprised of the following components: **L-alpha-bisabolol** as an anti-inflammatory, burn and wound-healer, antipyretic, and analgesic. **L-bisabolene** as an anti-inflammatory, anti-tumor, and antioxidant factor. **L-epicatechin** as an antioxidant, anti-viral, cancer-preventive, and lipoxygenase-inhibitor (protects linoleate). Lastly, **L-kaempferol** for its anti-histaminic, anti-inflammatory, antioxidant, anti-tumor, and cancer-preventive properties.

CHENOPODIUM (L-COMPLEX) This power-packed botanical complex (A.K.A. Wormseed) contains several unique compounds proven to assist problematic skin. These include the natural spin trap - **L-ascaridole** which is a tissue oxygenator, analgesic, and anti-acne; **L-pinocarvone** which is sedative and antiseptic; **L-limonene** which contributes antibacterial, antioxidant, anti-mutagen/cancer, anti-viral and anti-tumour qualities; and lastly, **L-spinasterol** which protects against lipid-peroxidation while acting as an anti-inflammatory.

"CHIROMA-THERAPY" Unique to **Kyra™**, "Chiroma-therapy" is optically select separation and recombination of only the beneficial active components of specific aromatic/therapeutic essential oils. By eliminating the incorrect side, and therefore

undesirable components, this approach offers the user a 100% improved therapy: aroma ratio, emphasizing the serendipitous aspects of Kyra™ formulations in the absolute truest 'sense'.

CITRIC ACID As a beta hydroxy acid, Citric acid softens the skin and makes an essential contribution to the formulation of left-handed ATP (the body's most important process for the creation of energy).

COCONUT L-GLYCINE Sourced from reacting coconut extracts, this l-glycine compound boosts surfactant efficiency.

COCONUT/MARSHMALLOW BETAINE Sourced from reacting coconut and marshmallow extracts, this L-Glycine compound boosts surfactant efficiency.

COLLOIDAL MINERALS This high "zeta" colloidal contains minerals that are easily accessed by the skin because of its ability to "tune into" the skin's natural electrolytes.

CRANBERRY (D-COMPLEX) This complex is comprised of **D-catechin** which is anti-endotoxic, anti-herpes, antihistamine, antioxidant, anti-scleroderma, anti-viral, and anticancer. It also includes **D-gamma-tocopherol**. It is more potent than other tocopherols and keeps skin cells "fertile" for self-renewal. **D-vacciniin** contributes a biomolecular "vaccine" against viruses, bacteria and fungus, and **D-lutein** (ALPHA-carotene) delivers much more potency than beta-carotene!

D-ALPHA TOCOPHEROL Right-handed Vitamin E or **D-alpha-tocopherol**, is the only natural version of Vitamin E and is the antioxidant with the best and most widely respected reputation. Sourced from Purslane (portulaca oleracea) where it occurs at 2300 parts per million (PPM), it is hands down more effective than the left-handed version. The racemic combination of left and right, which totally dominates the general skin care and health food industry, is absolutely ineffective, and is used for label claim only.

D-BETA FRUCTAN Naturally occurring in the date palm at 308,000 parts per million (PPM), this compound is the universal "drought stress" weapon in plants. It offers more benefits than beta glucan (the "other" sugar polymer) in that it boosts immunity and builds moisture while guiding the activity of glucosamine into the cellular compartments that oversee the skin's moisture levels and retention capability.

D-BETA GLUCOSAMINE Extracted from Chines Fox Glove where it occurs at 26,000 parts per million (PPM), this sugar works with **D-glucuronic** to help the skin build its own stable of resident mucopolysaccharides. This right-handed chitin sugar supplies nitrogen to the skin's network of signaling molecules so that there will be accurate communication between cells. This keeps the epidermis in tighter alignment with the dermis. **D-beta fructan** makes the effects of this arrangement more enduring.

D-BIOTIN Sourced from yeast, this right-handed Vitamin H is sometimes called "the skin vitamin". It is known to be both anti-dermatitis and anti-dryness.

D-CHOLIC ACID Derived from the saponins of aloe, this sodium fatty acid stimulates the **D-ceramide** production of skin. Natural occurring in the skin's own chemistry, D-ceramides improve the permeability-IQ of the stratum corneum.

D-FLAVANOIDS/FD&C #10 These yellow flower pigments from the flavone family are both antioxidant and anti-inflammatory.

D-GLUCURONIC ACID D-Glucuronic Acid is the most basic building block of hyaluronic acid and chondroitin sulfate. As such, this precursor of Vitamin C is Nature's chief de-toxifier in plants and animals! It also contributes more moisture to the skin during the cleansing process.

D-LANOSTEROL This yeast derivative improves the effectiveness of **D-Panthenol** and is the water-soluble precursor to Vitamin D.

D-PANTHENOL Wonderfully beneficial for both skin and hair, **D-panthenol** is part of the Vitamin B-5 family and is sourced from queen bee jelly. D-panthenol is a promoter of coenzyme a and as such, possesses strong anti-dermatitis properties. D-panthenol is true right-handed B5, which combines with pyridoxine (B6) to increase the hyaluronic acid content of skin! This is the "active" alternative to synthetic D, L-panthenol which is inactive and absolutely of no use to a product's effectiveness. Finally, panthenol that delivers on its promises.

D-RETINOL HAMAMELATE This is chiral Vitamin A which is linked to a short-chain fatty acid from fermented Hamamelis (witch hazel) bark. It is highly active and stimulates the kind of collagen synthesis reminiscent of our earliest youth!

D-RUTIN This extract is from the pansy family where it occurs at over 200,000 PPM. It is essentially an antioxidant sugar that acts as an anti-inflammatory and capillary protectant. It is also an excellent natural yellow pigment.

D-SAPONIN ESTERS This is the chemistry name given to the right-handed liquid crystals extracted from monocotyledon plants. Their unique ability to split light into a rainbow pattern is proof positive of their intense optically-active nature, and makes them incredibly beautiful to look at! By their very composition, saponin derivatives are extremely anti-bacterial, purifying, and fortifying to the cell surface.

DIMETHICONE This component increases the linking of hyaluronic and mucopolysaccharides to protein in connective tissue and skin. Silicon is increasingly recognized as important in wound healing and aging.

DIMETHICONE COPOLYOL This silicon polymer increases the linking of Hyaluronic Acid and other mucopolysaccharides to protein in connective tissue and skin. This ingredient is increasingly being recognized as important in both anti-aging and wound-healing.

DISTILLED WATER Supercritical distillation and Fullerene filtration make this the "hungriest" and purest water on the planet - capable of holding and delivering exponentially more ingredients!

EGG LECITHOL Sourced from egg lecithin, this fatty alcohol provides a firm lipid base to anchor the other lighter-than-water ingredients.

EGG STEARATE This is a sugar-lipid sourced from egg yolk which helps to emulsify the skin's free fatty acids which in turn, maintains the moisture balance.

GALL OAK BARK Containing the powerful new-age lightener Gallic Acid, Gall Oak Bark is also anti-HIV, anti-viral, antioxidant, anti-peroxidant, anti-inflammatory, anticancer., antiallergenic and antibacterial.

GREEN TEA This version contains the chiral components: **D-Catechin** which is an antioxidant and an anti-peroxidant; **L-Epigallocatechin** which is both an antioxidant and a lipoxygenase inhibitor; and **L-Epigallocatechin-3-0 gallate** - plus **L-Epigallocatechin-gallate** for "turbo-boosted" antioxidant strength.

GLYCERIN The form of Glycerin used in our products is steam-distilled from sugar fermentation. This improves the mobility of right-handed ingredients through the dead stratum corneum.

HOPS FATTY ACIDS This long-chained fatty alcohol extracted from hops, enhances the uptake of this formulation's lipid phase.

HOPS GLYCEROL ESTERS This long-chained fatty alcohol extracted from hops, enhances the emollience of the lipid phase in certain formulations. Horse Chestnut Extract offers a wealth of skin health boosters. L-epicatechin offers anti-allergy and antioxidant properties, L-esculin contributes natural sunscreen as well as cancer-preventative and anti-capillary-fragility factors, and L-rutin, which is anti-dermatitis, doubles as the second anti-capillary-fragility factor.

HYDROCOTYLE EXTRACT Also known as Marsh Pennywort or Kotu Kola, Hydrocotyle Extract contributes L-asiatic acid - a powerful wound-healer and collagenic (that which promotes collagen growth).

JASMINE This aromatic alcohol from the jasmine branch of the olive family is a powerful pheromone, which discourages bacteria and other microorganisms from setting up home in the formulation itself!

JOJOBA BEADS These are perfectly spherical "beads" made from the wax of Jojoba. They are used in this form to allow for low-friction scrubbing with absolutely no risk of surface scratching or tears to the skin. Jojoba, the botanical equivalent to sperm whale oil, is super-hydrated to be 100% non-oily and water soluble, yet it is a super emollient!

KAOLIN Kaolin is a natural silicate that contains optically active quartz. Kaolin also imparts "chiral-sensitivity" to water.

L-ACYL GLUTAMATE L-glutamic amino acid surfactant is milder than all the rest, yet its ability to maintain the elasticity of the stratum corneum proteins is exceptional!

L-ALPHA-BISABOLOL Pure chamomile sourced bisabolol is 100% left-handed and as such, far supercedes the ability of azulene as an anti-inflammatory, burn and wound-healer, and antipyretic.

L-ARBUTIN This left-handed goody is the only chiral skin lightener in the world, and it is sourced from bearberry. It is extremely sensitive to the optical activity of the skin, as well as being melanocyte friendly!

L-ARGININE PCA This component brings moisture to the keratohyalin material of the lower stratum corneum, and in fact outperforms Sodium PCA.

L-ASCORBIC ACID Otherwise known as vitamin C, this is the most important of all the carbohydrates. Left-handed to promote better building of proteins, L-ascorbic is plentiful in left-handed amino acids.

L-CARYOPHYLLENE Extracted from Turkish oregano, **L-caryophyllene** is an anti-inflammatory, antibacterial, anti-edemic and tumour preventative.

L-CHONDROITIN SULPHATE This mucopolysaccharide from shark cartilage, is an important component of the dermal ground substance. It improves water binding and the extra-cellular flow of nutrients. It is enhanced by the presence of **D-Glucuronic Acid**.

L-CHLOROPHYLL Derived from Damiani leaves where it occurs at 80,000 PPM, L-Chlorophyll is anti-mutagenic, antioxidant, antibacterial, anti-decubitis and vulnerary.

L-GLUTATHIONE Extracted as glutamine-cysteine-glycine peptide from purslane and spinach, L-glutathione is left-handed for greater protection of membrane lipids from free radicals.

L-LACTIC ACID Sourced from yogurt, the left-handed orientation of this component of alpha-hydroxy acid finesses protein softening - meaning - it expedites cell-turnover and the migration of new and healthier cells to the surface where improvements to the skin's condition are visible.

L-LIMONENE L-limonene is the "correct" hand of the most therapeutic component of citrus essential oils, as opposed to its evil twin d-limonene. Extracted from java-olive, L-limonene is cancer-preventive, anti-mutagenic, anti-tumor, anti-viral, antibacterial, and relaxing.

L-MALIC ACID This ingredient is a factor found in berries and it promotes more efficient circulation and healthier capillaries in the skin.

L-MENTHOL The L-Menthol in our formulas is extracted from Japanese Mint. At 25,000 parts per million (PPM), it is the most potent source of menthol on the planet - making this left-handed essential oil component more penetrating than DMSO. Its chemo-prophylactic properties keep "foreign invaders" from landing as they simultaneously render existing surface bacteria ineffective. L-menthol maintains the chiral purity of the skin during the aging process.

L-OVALBUMIN This water-soluble growth-promoting protein derived from eggs, strengthens the L-serine contribution to elasticity.

L-PROLINE This left-handed amino acid improves the strength of the cellular envelope while simultaneously boosting the integrity of elasticity in the skin.

L-SODIUM HYALURONATE This left-handed component of Hyaluronic Acid is the molecular "twin" or side that works! By extracting it from polymerized plant **D-Glucuronic Acid**, it becomes more hydrated. This in turn means that it has the capacity to "expand" tissue, allowing more cells to migrate into the additional spaces (wrinkles/fine lines) that have been created due to collagen displacement or collapse. This results in a smoothing or "filling-in" of imperfections in the skin.

L-SODIUM LACTATE This is the yogurt version of the **L-Lactic acid** salt that naturally occurs in human sweat. Its function is the same, and that is to improve cell-turnover.

L-SODIUM PCA also known as oxo-proline, **L-Sodium CA** naturally occurs in human plasma and skin. This version however, is derived from molasses, and it is used to boost moisture.

L-TARTARIC ACID The first chiral compound ever discovered was **L-Tartaric Acid**, and it was discovered by Louis Pasteur in wine! It is a powerful antioxidant synergistic, and it greatly enhances the effectiveness of **L-Malic Acid**.

LAUREL BERRY THIOLS This is a mild surfactant (surface acting agent) derived from saturated fatty acids in milk fat and laurel leaf that treats lipids as chirals!

LICHEN SUCCINATE Lichens grow in the Arctic Circle and as such, endure the most extreme conditions on the planet! Consequently, - they are extremely hardy, having had to evolve some of the most complex and interesting biochemicals in the world in order to ensure their survival. As such, they possess a natural sunscreen, which enables them to endure six months of straight sunlight, as well as the ability to weather extreme cold and lack of sunlight. No wonder then that their mild surfactant properties benefit the succinic acid part of our own human ATP production!

LICORICE ROOT EXTRACT Licorice extract contains a wealth of "medicinal" properties that have a positive effect on the skin! They include: **L-beta-sitosterol** (anti-inflammatory and anticancer.); **L-fenchone** (counter-irritant); **L-genistein** (circulatory booster, anti-melanoma, antioxidant, anticancer, and anti-proliferative);

D-glycyrrhizin (a powerful skin lightener, capillary supportive, antiallergic, anti-edemic, anti-inflammatory, antioxidant, anti-viral, and anticancer.)

MARINE PHYTO-NUTRIENTS These marine flora, extracted out of seaweed taken from the Atlantic coastal region of France, are nutrient rich with vitamins and minerals that have a positive effect on skin.

MELALEUCA (L-COMPLEX) Melaleuca alternifolia is commonly known as tea tree oil, and comes from Australia. The Melaleuca L-Complex used in our products are chirally resolved to optimize its therapeutic benefits. Chiral constituents include: **L-caryophyllene** (anti-inflammatory, anti-tumor, antibacterial); **L-linolol** (antihistamine, anti-viral, cancer-preventive, sedative); **L-limonene** (anticancer., anti-tumor, anti-viral, sedative); and **L-terpinen-4-ol** (anti-allergy, antiseptic, antibacterial, anti-fungal, wound-healing).

MENTHYL VITAMIN L-1 This sunscreen combines L-menthol with Vitamin L-1 to nourish and protect the skin's germinative layer.

MILK DISTEARATE Milk Distearate is a natural emulsifier and it makes skin easier to clean. These milk lipids suppress the conversion of epidermal fats to waxes, thus reducing blockages of the follicles.

MILK POLYMER This water-soluble polymer is derived from milk lipids (fats). It mediates the interactivity of skin's natural lipids and L-ovalbumin which is a water-soluble growth-promoting protein. L-ovalbumin also strengthens the L-serine contribution to elasticity.

MUSTARD SEED LIPIDOL Mustard seed lipid alcohol suppresses abnormal epidermal lipid metabolism which is the precursor to psoriasis for example.

MUSTARD SEED THIOLS Extracted from mustard seed oil (L-cysteine), this surfactant (surface acting agent) conditions the sulphur-rich proteins of the scalp and hair.

NIACINAMIDE This Vitamin B anti-inflammatory, is the vital precursor to the body's coenzymes in ATP production.

NUTMEG FATTY ACIDS Essentially this is Nutmeg butter and it helps keep the epidermal omega-hydroxy-acids (ceramides) in balance with other skin lipids.

OLEIC FATTY ACID This unsaturated lipid, which is derived from milk fat, improves the balance of epidermal phospholipids.

PAPRIKA Often thought of strictly as a spice, Paprika has many chiral constituents that benefit the "calming", the circulation and the structural integrity of the skin. They include: **D-capsanthin** (red color) and Capsaicin (analgesic, antioxidant, anti-psoriasis, anticancer.); **L-caryophyllene** (anti-tumor and anti-inflammatory); **D-cyclo-artenol** (anti-inflammatory), and **L-hesperidin** (capillary-protective).

PYRIDOXINE Similar in its optical activity as Liquid Crystals, this Vitamin B6 yeast form is extremely anti-acne, as well as being beneficial to the skin's lipid bi-layer.

QUERCITIN Extracted from Evening Primrose where it occurs at over 200,000 PPM (parts per million), this flavonol provides a yellow or gold color to a formulation while also contributing powerful antioxidant, anti-peroxidant and anti-inflammatory properties.

RED WINE (D-COMPLEX) This complex of **D-bioflavanoids** and **D-polyphenols** are what makes red wine healthier than grape juice!

RYE POLYGLUCOSE Rye Polyglucose is a starch that imparts and anchors a baseline body and feel to the products and in so doing, controls the "feeling" of the other ingredients.

SALICYLIC ACID Derived from pumpkin seeds, Salicylic Acid is anti-dermatotic, anti-eczemic, antipyretic., anti-seborrheic, and anti-psoriatic.

SERUM PROTEIN This hormonal component of fertilized eggs is a potent growth factor that stimulates re-population of epidermal growth factor receptors.

SHEA BUTTER Sourced from the Karite Tree, the component **L-phytosterols** and **D-alpha-tocopherol** prevent lipid-peroxidation in the epidermis.

SPINACH / FD&C #5 GREEN L-chlorophyll, D-carotenoids and D-flavonoids which color and rotate warmer light clockwise to speed activity.

SQUALENE Sourced from olives, this is the botanical metaphor for the Squalene that is naturally occurring in human skin. It boosts the effectiveness of left-handed sodium lactate and sodium PCA, in that it brings moisture into the epidermal lipid layer.

SWEET BIRCH OCTANE This chirally correct and therapeutic sunscreen is the result when capric fatty acid and Salicylic acid from sweet birch are combined.

TITANIUM DIOXIDE This powerful light-activated catalyst for antibacterial and anti-viral activity is a natural sunblock.

WHEAT GERM OIL This is a genetically enhanced compound, resulting in higher linoleic fatty acids. It offers a wide spectrum of tocopherols that have Vitamin E activity.

WINE Chirally buffered for softness, this version of wine alcohol solubilizes salicylic acid without drying the skin.

WITCH HAZEL Isolating the **L-epigallocatechin, D-gallocatechin** and **D-mammeloise** components of Witch Hazel boosts antioxidant qualities while serendipitously offering calming effects.

YLANG YLANG Unzipped essential oil separating the active L and D components for improved therapy:aroma ratio.

ZEOLITE Zeolites are crystalline hydrated silicates from volcanoes, whose molecular composition resembles that of a cage, or trap. These geodesic formations trap and remove the heavy metal pollutants that have been deposited through environmental attack.