

KERAPLAST FK RESTORE

PROTECT, MOISTURIZE, REPAIR

FULL SPECTRUM HAIR CARE

THREE UNIQUE FUNCTIONAL KERATIN® PROTEINS

Combined in one power-packed active hair care ingredient.

- 80% less breakage
- 52% stronger
- 58% better condition after sunlight/pollution damage
- 36% better shine
- 67% prevention of color fade

KEY INGREDIENTS OF FK RESTORE

1. Patented Protein structure "Protect"

Excellent film forming properties create protective barrier.

Radical scavenging ability through naturally high cystine content

Unique ability to protect from pollution and UV attack while effectively quenching free radical species before they can propagate the generation of reactive oxygen species.

2. Patented Protein and peptide mixture "Moisturise"

Low molecular weight peptide can penetrate the cortex of hair resulting in internal repair and moisturization. Nourishment of hair prevents brittleness and strengthens chemically treated hair.

3. Patented Protein extraction "Repair"

Well preserved amino acid structure 91% homologous to human hair.

Binds strongly to exterior of damaged hair with 80% reduction in breakage. Repairs damaged hair close to virgin state.

Patented Functional Keratin®

Unique Active Ingredients

- Anti-pollution
- Anti-aging
- Repair

Keratin is one of nature's most important building blocks providing structure and order, and is fundamental in the development of healthy tissues including skin, hair and nails. Keratins commonly used by hair care manufacturers are hydrolysed i.e. they are simply small peptide fragments of one or two amino acids joined together.

Keraplast's proprietary manufacturing and processing technologies gently extract full bioactive Functional Keratin® from natural, renewable sources (sheep's wool) for incorporation into product solutions to enhance health, beauty and well-being.

- Full functional full length protein and polypeptides
- Functional Keratin® is closer in form and function to human hair keratin than any other material previously produced.
- Reversal of hair damage can be achieved with Functional Keratin® technology.

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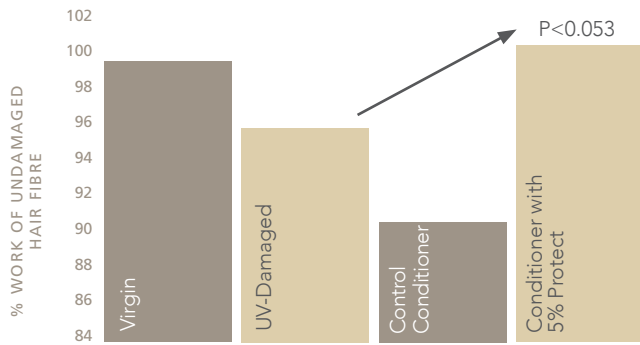
Function	FK Restore is a unique combination of all three Functional Keratin® proteins. It nourishes, strengthens, reduces breakage and restores hair structure. Improves shine and condition with 67% prevention of color fade.
Composition	Intermediate filament protein + peptide + high molecular weight Type 1 Keratin with strong binding properties.
Properties	Pale yellow semi-viscous liquid. Low odor.
INCI Name	Keratin, Hydrolyzed Keratin, Oxidised Keratin.
Applications	Shampoos, conditioners, intensive treatments (salon), spray, serums, masques, cream rinses.
Formulations	Can be formulated into a broad range of hair care systems. Some care required in combination with cationic species, and higher pH is preferred at high inclusion levels.
Typical Usage Levels	1% - 2.5%

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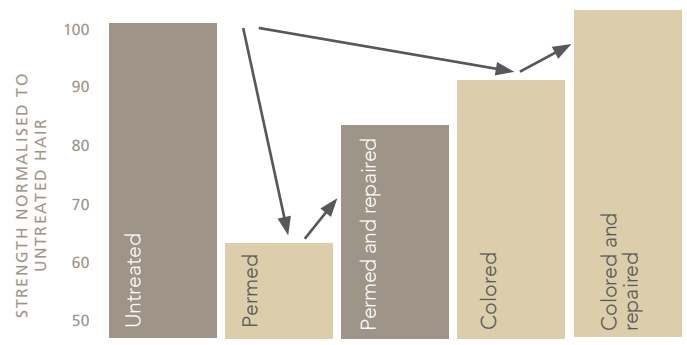
TENSILE MEASUREMENT



HAIR FIBRE TREATMENT

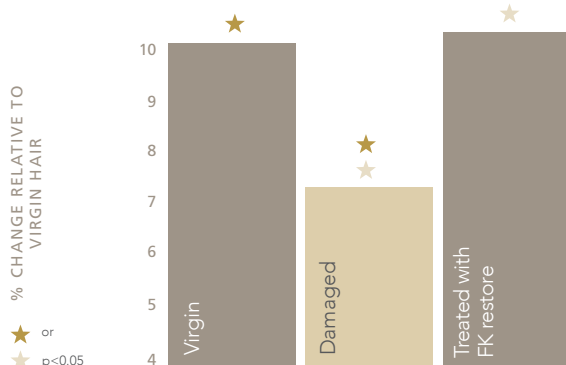
Mechanical properties maintained when Functional Keratin® Protect is applied to hair prior to UV exposure to sunlight.

REPAIR STRENGTH TESTING AFTER CHEMICAL TREATMENT



HAIR STRENGTH BEFORE AND AFTER RESCUE TREATMENT

FK RESTORE - PEPTIDE MAKES HAIR STRONGER

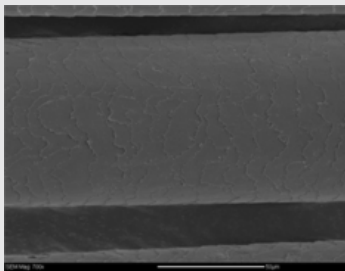


HAIR ENERGY NOURISHMENT AT 20% EXTENSION

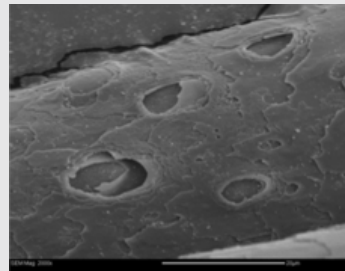
Hair damaged through chemical treatment requires less energy to extend, indicating it is weaker. Tensile testing demonstrates that treatment with Functional Keratin® Peptide provides nourishment to strengthen chemically treated hair by 27% back to a level close to that of virgin hair.

FUNCTIONAL KERATIN® VS HYDROLYZED KERATIN FRAGMENTS

	Functional Keratin®	INCL Hydrolyzed Keratins
Functional Protein	Y	N
Proprietary amino acid sequences matched to hair structure	Y	N
Full length protein and peptides that form a sacrificial shield to prevent hair damage	Y	N
Maintains cystine functionality, important for binding to hair and protein function	Y	N
Able to bind to type 2 keratins in hair in tight coils to create strong fibrous structures	Y	N
Pure intermediate filament proteins, particular keratins responsible for hair strength	Y	N
Data showing quantitative and qualitative improvements in hair and skin	Y	N
Guaranteed sourced from pure NZ Wool, no harm to animals	Y	N



SEM of hair pretreated with 5% Protect following exposure to severe cigarette smoke



SEM of untreated hair following exposure to severe smoke from 20 cigarettes.