

- ☒ Food
- ☐ Food Additive
- ☐ Cosmetic
- ☐ Quasi-drug



Hokkaido Salmon

『 Salmon Nasal Cartilage Extract Powder 』

Functional Claims
Healthy Do
HALAL
Kosher
GMP
Upcycling
**Technical
Data**

Undenatured Typell·Type XI Collagen & Undenatured Proteoglycan from Natural Salmon



Expected Function

- ◎ Relieving joint pain and maintaining good health
- ◎ Anti-inflammatory effect

Foods with Functional Claims

This product contains salmon nasal cartilage-derived proteoglycan, which has been reported to relieve discomfort felt by middle-aged and elderly healthy people who experience discomfort in their knee joints when walking or going up and down stairs.

Recommended Dosage

- ◎ 15~50 mg/day

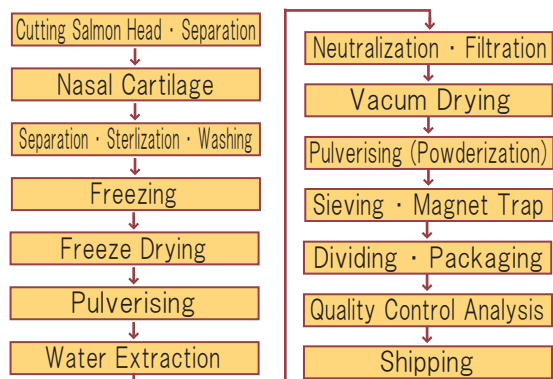
Uses

- ◎ Joint supplements, drinks and processed foods

Display Name Example

- ◎ Salmon nasal cartilage extract
(Undenatured type II & type XI collagen, undenatured proteoglycan-containing material), etc.

Production Process



Other

Quantity	100g, 1kg
Shelf life	3 years from the production date
Storage condition	Keep in cool dry place and avoid direct sunlight

Salmon is the fish that has been eaten for the longest time in Japan, and is eaten in large quantities. Since the fish species is caught domestically and food safety has been established, everybody can enjoy it with peace of mind for their health.

Undenatured type II collagen and undenatured proteoglycan are extracted from the nasal cartilage of salmon caught in Hokkaido. Salmon nasal cartilage is called “Hizu” (Icy head) because it is transparent like ice, and is traditionally eaten mainly in Hokkaido and Tohoku regions, but much of it is discarded. It is an ingredient extracted from natural salmon from Hokkaido, which many Japanese people have eaten, so it can easily convey a sense of security to consumers. Traceability is ensured as everything from raw material procurement to processing is done in Japan.

Quality Standard Composition

Material	Salmon cartilage extract (Undenatured type II & type XI collagen, undenatured proteoglycan contained)
Property	White to light yellow powder with its original scent
Undenatured Type II Collagen (Amino acid analyzing or dimethylamidoben- zaldehyde colorimetric method method)	Over 40.0%
Collagen content ratio	Type II : Type XI = 8 : 2
Undenatured Proteoglycan (HPLC method)	Over 40.0%
Molecular Weight (GPC-MALS method)	2,000~4,150 kDa
(GPC method)	900~1,400 kDa
pH	6.5~8.5
Moisture	Less than 10.0%
Residue on ignition	Less than 25.0%
Heavy metal (Pb)	Less than 2.0 ppm
Heavy metal (As)	Less than 2.0 ppm
Viable count of bacteria	Less than 3,000 CFU/g
Coliforms	Negative

Chemical Analysis Value (/100g)

Energy	343	kcal
Protein	64.3	g
Fat	0.3	g
Carbohydrate	20.7	g
Moisture	0.9	g
Salt equivalent	5.56	g
Ash	13.8	g

*Numbers are just an analysis example.
It does not guarantee the content of the product.

Company Information

Ver.2504

North Life Co.,Ltd.

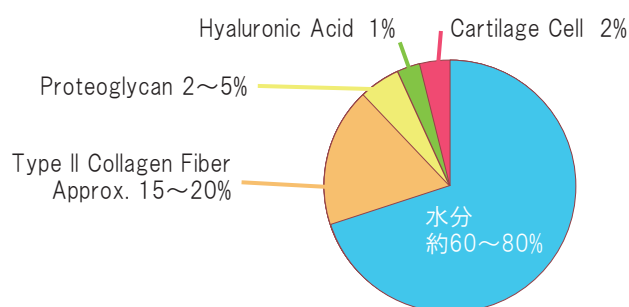
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■ Containing Undenatured Type II·Type XI Collagen & Undenatured Proteoglycan

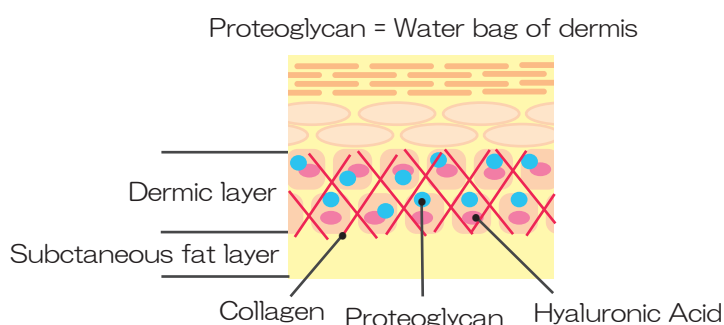
Articular cartilage is a bluish gel tissue that covers the tip of the bone. It has a structure in which proteoglycan is tangled in the framework mesh created by type II collagen fibers. It is 4 to 6mm thick and softer than bones. Its joint fluid (synovial fluid) that is composed mainly of hyaluronic acid has lower lubricating performance than the contact friction of ice and ice. Because of the above function of the cartilage, we can move our joints smoothly without direct contact of the bone and joint.

Proteoglycan is a kind of glycoprotein in a broad sense that sulfated polysaccharide called glycosaminoglycan such as chondroitin sulfate, dermatan sulfate, heparan sulfate, heparin and keratan sulfate covalently bonded to the protein. Proteoglycan is present in the extracellular matrix and cell surfaces of animals. It is also present in the fibrous matrix and the cell surface of hyaluronic acid and collagen, and forming a fibrous matrix proteins and complex of hyaluronic acid and collagen.

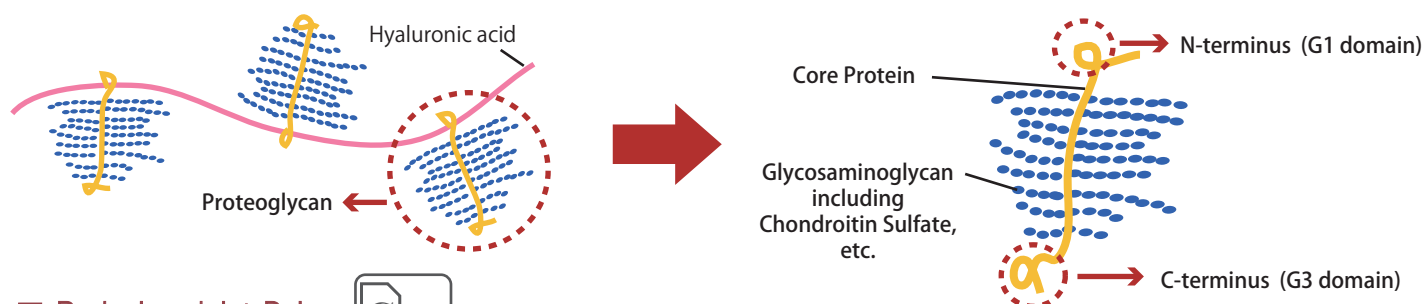
〈Component of Joint Cartilage〉



〈Structure of Skin Tissue〉



〈Structure of Proteoglycan〉



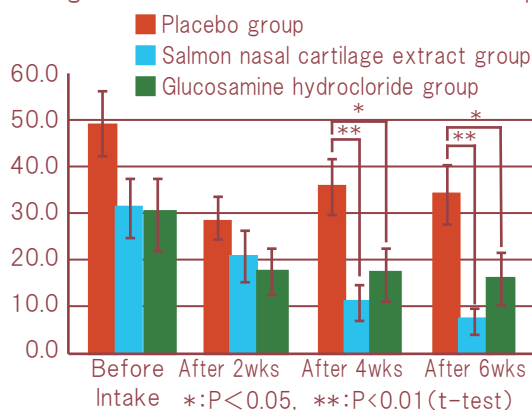
■ Reducing Joint Pain



Sixty men and women aged 40 to 75 who have subjective symptoms of pain and stiffness in the knee are divided into salmon nasal cartilage extract 50 mg intake group, glucosamine hydrochloride intake group, placebo group, and the results after 6 weeks ingestion are evaluated with WOMAC questionnaire and VAS score. As a result, efficacy of knee pain at 4 weeks after ingestion is observed in 50 mg intake group of salmon nasal cartilage extract.

From this, it is considered that salmon nasal cartilage extract is effective for amelioration of symptoms in early inflammation of the knee and prevention of knee arthritis.

Change and transition of VAS score on knee pain



Yuji Kuriyama, Masaki Narumi et al. Effect of salmon nasal cartilage extract (containing undenatured type II collagen and undenatured proteoglycan) on knee joint pain. Journal of New Drugs and Clinical Medicine 2016;65:1507-1521

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