

- Food
- Food Additive
- Cosmetic
- Quasi-drug



Hokkaido Wakkanai Ray (Rajidae)

『Mucin (Sialic Acid)』

Technical
Data

Sialic Acid from Natural Fish



The ray (Rajidae) is commonly eaten in Hokkaido and Tohoku region for a long time, and Wakkanai makes up 50% of its haul in Japan. However, the fin part was only consumed, and all the other parts are thrown away.

We focused on this thrown away resources of red sting ray. Research is done based on industry-academia-government collaboration to extract mucin polysaccharide protein that contains sialic acid from ray.

Expected Function

- ⊙ Inactivation of virus
- ⊙ Immunopotentiative action
- ⊙ Inhibition of dermatitis
- ⊙ Beauty skin effect
- ⊙ Moisturizing effect
- ⊙ Antiaging effect
- ⊙ Hair growing effect

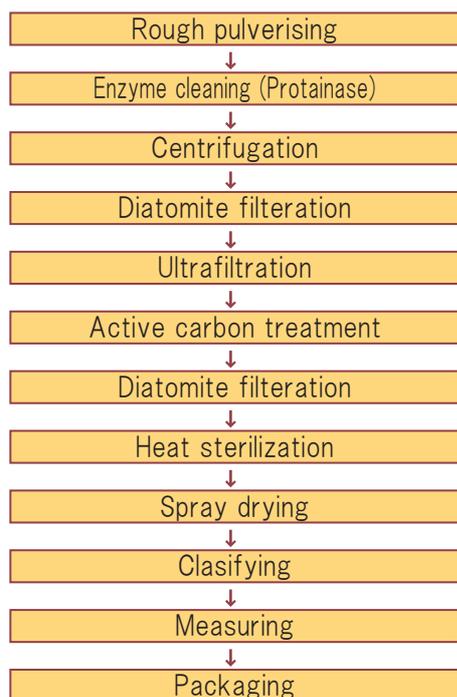
Recommended Dosage

- ⊙ As this ingredient : 30~60mg/day (Custom)

Uses

- ⊙ Supplements, drinks and processed food for beauty
- ⊙ Supplements, drinks and processed food for virus protection
- ⊙ Productss to improve immunity

Production Process



Ray Stew



Grilled Ray



Deep-fried Ray



Thick meat of Ray

Display Name Example

- ⊙ Mucin, Mucin type protein complex,
Sialice acid componet glycoprotein complex, Rajidae extract

Quality Standard Composition

Material	Extract of Ray (Rajidae)
Sialic acid	Over 5% (HPLC method)
Property	White to light gray powder, has its original scent
pH(1% water solution)	5.0~7.0
Heavy metal(Pb)	Less than 10ppm
Viable count of bacteria	Less than 3000 pcs/g
Coliform bacteria	Negative
Crystal size	30 mesh pass
Constitution	Extract of Ray 100%

Chemical Analysis Value (/100g)

Energy	345.0	kcal
Protein	39.5	g
Fat	0.3	g
Carbohydrate	41.6	g
Sodium	1,150.0	mg
Sialic acid	5.4	g

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

Shipping

Quantity	1kg
Storage term	2 years from the production date
Storage conditions	Keep in cool dry location, and avoid direct exposure to sunlight.

Company Information

■ Composition of natural sialic acid GPSM

Natural sialic acid GPSM contains plenty of sialic acid (N-acetylneuraminic acid). It also has other rare sugar and various type of sugar chains. The elements of its composition are N-acetylneuraminic acid, fucose, N-acetylgalactosamine, N-acetylglucosamine, galactose, gulcose, arabinose, mannose iduronic acid and gluclonic acid.

■ Sialic acid with affordable price

Natural source of sialic acid is limited in the world. Swallow's nest are widely known as a main resource of sialic acid, however it's very expensive and not suitable for industries. The price of sialic acid from red sting ray is relatively reasonable, because it was thrown away as a industrial waste originally. Not only the price but also the sure traceability and "made in Japan" are attractive points of this ingredient.

■ Possibility of sialic acid

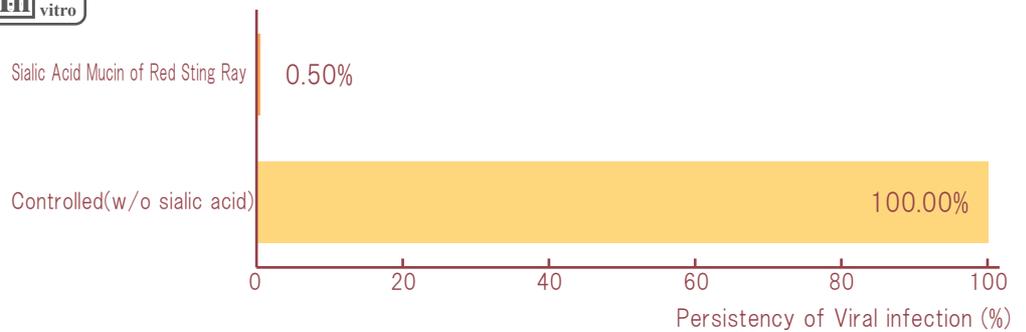
Sialic acid that percieves immune cells, and inhibits virus action at the end of sugar chain is a key substance for maintaining our life. Anti-influenza medicine is developed from sialic acid derivative.

■ Inactivation of flu virus



Sialic acid mucin from red sting ray inactivates flu virus. The right shows the persistency of viral infection that is calculated by the test results of TCID50 method (log TCID50/ml) with influenza A virus (H1N1).

(Unpublished Data)

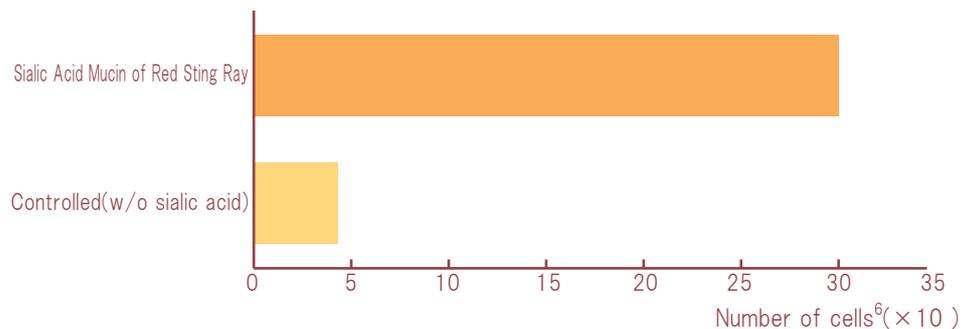


■ Increase in T-cell



The right shows the result of growth test of immune cell (T-cell).

(Unpublished Data)



■ Within a 100-meter radius of traceability

After red sting rays are unloaded at Wakkanai fish harbor, fishes are sold at the fish market in front of the harbor. Then they are taking into a fish processing facility just 200 meters away from the market. At the facility, fins of the fish are transported as food and the other parts of the fish are sent to the factory right next to extract sialic acid. Because whole process are done by such a small area, the traceability of the product is securely kept.



Company Information