

# Laminariae Thallus or Eckloniae Thallus versus Alga Ulvae Pertusae or Alga Ulvae Lactucae



## Source

**Laminariae Thallus or Eckloniae Thallus**  
is the dried thallus of  
*Laminaria japonica* Aresch.\*  
in the family Laminariaceae or  
*Ecklonia kurome* Okam.  
in the family Alariaceae

**Alga Ulvae Pertusae or Alga Ulvae Lactucae**  
is the dried alga of  
*Ulva pertusa* Kjellm. or  
*U. lactuca* Linn.#  
in the family Ulvaceae

## Overview

Laminariae Thallus or Eckloniae Thallus has been recorded in the Chinese Pharmacopoeia (2020) but not listed in the Schedule 2 of the Chinese Medicine Ordinance. According to the Chinese Pharmacopoeia, Laminariae Thallus or Eckloniae Thallus can eliminate phlegm, soften hardness and dissipate binds, and drain water and disperse swelling. On the other hand, Alga Ulvae Pertusae or Alga Ulvae Lactucae has neither been recorded in Chinese Pharmacopoeia nor the Schedule of the Chinese Medicine Ordinance. According to the *Guang dong zhong yao zhi*, *Ulva pertusa* or *U. lactuca* had a long history of being purchased and supplied as “Kun bu” for medicinal use in the Guangdong Province. Alga Ulvae Pertusae or Alga Ulvae Lactucae has the functions of clearing heat and detoxification, and helps to soften hardness and dissipate binds. As the source and functions of these two Chinese Materia Medica are different, they should be used accordingly.

Note:

\*Only *Laminaria japonica* is included in this study as currently it is the main species of Laminariae Thallus or Eckloniae Thallus in the market.

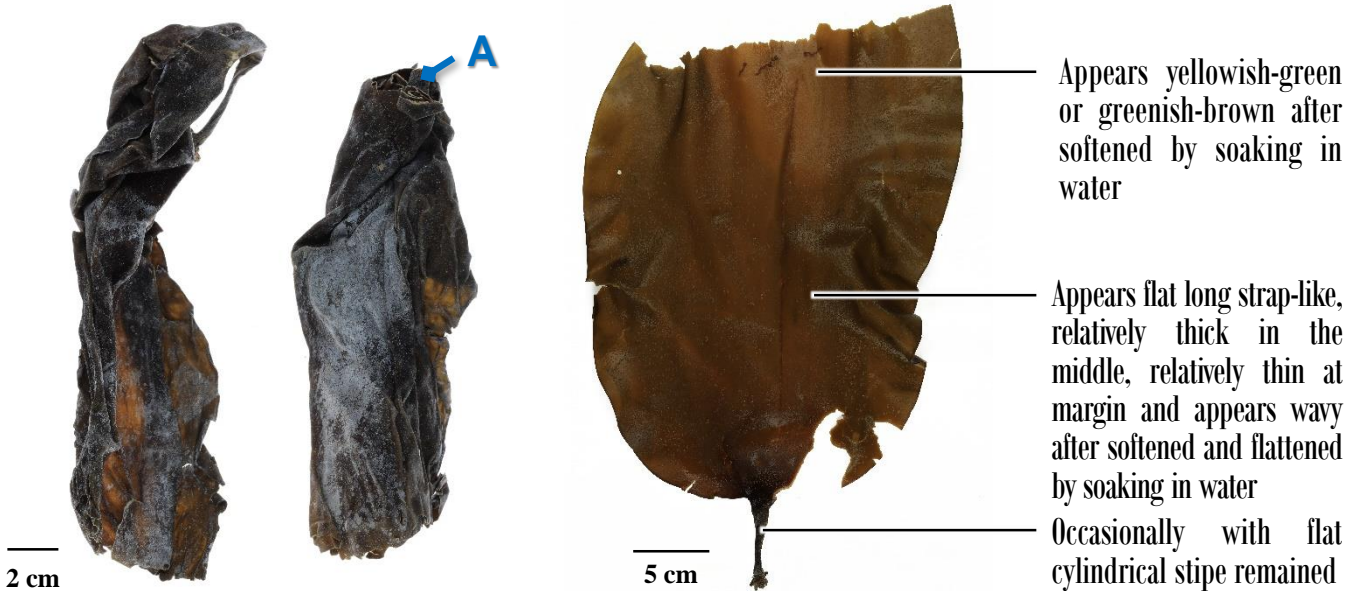
#Only *Ulva lactuca* is included in this study as currently it is the main species of Alga Ulvae Pertusae or Alga Ulvae Lactucae in the market.

## Key identification features

### Macroscopic features of Laminariae Thallus or Eckloniae Thallus



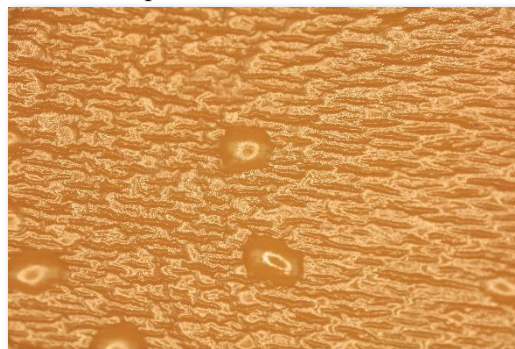
- ◆ Strip-shaped or sub-square
- ◆ Greenish-brown, surface covered with white frost-like powder



- ◆ Instantly swollen, with leathery-like texture, mucilaginous and smooth surface with transparent mucilage when soaked in water

### Micro-morphological feature

A: With wrinkles, sometimes with blister-like protuberances observable



(Flattened surface after softened by soaking in water)

1mm

## Macroscopic features of Alga Ulvae Pertusae or Alga Ulvae Lactucae



- ◆ Irregular masses
- ◆ Light green or green, surface covered with white frost-like powder



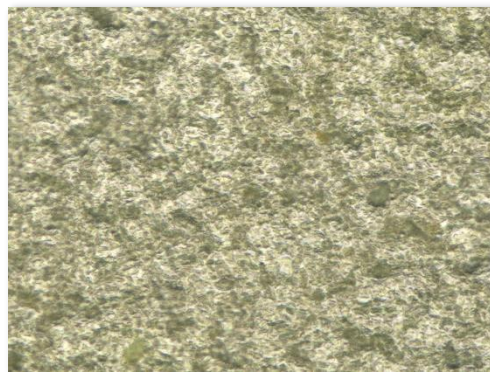
Appears light green and translucent after softened by soaking in water

Appears thalloid with irregular shape after softened and flattened by soaking in water

- ◆ Appears membranous and extremely easy to be broken after soaking in water

### Micro-morphological feature

A: Smooth, with granular striations on the surface

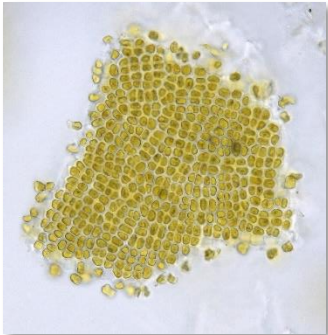




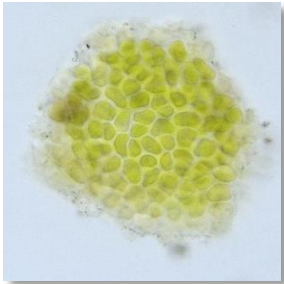


(Flattened surface after softened by soaking in water)



Microscopic feature comparison of Laminariae Thallus or Eckloniae Thallus and Alga Ulvae Pertusae or Alga Ulvae Lactucae powder



	Laminariae Thallus or Eckloniae Thallus	Alga Ulvae Pertusae or Alga Ulvae Lactucae
Epidermal cell	<div></div> <p>Yellow, yellowish-brown or light yellowish-brown, sub-rounded, square or polygonal, orderly arranged, tight, with gel-like substance on the surface</p>	<div></div> <p>Absent</p>
Cells of cortex and pith	<div></div> <p>Colourless, polygonal</p>	<div></div> <p>Absent</p>
Undifferentiated cell of alga	<div></div> <p>Absent</p>	<div></div> <p>Light green or yellowish-green, polygonal, irregularly arranged, rich in gel-like substance at intercellular space</p>

50 μm

## Summary

Major differences in the features between Laminariae Thallus or Eckloniae Thallus and Alga Ulvae Pertusae or Alga Ulvae Lactucae:

			Laminariae Thallus or Eckloniae Thallus	Alga Ulvae Pertusae or Alga Ulvae Lactucae
Macroscopic and micro-morphological features	Testing with water	Colour	Yellowish-green or greenish-brown	Light green and translucent
		Texture	Leathery-like	Membranous and extremely easy to be broken
		Surface	With wrinkles, sometimes with blister-like protuberances observable	With granular striations
Microscopic features	Epidermal cell		Yellow, yellowish-brown or light yellowish-brown	Absent
	Cells of cortex and pith		Colourless	Absent
	Undifferentiated cell of alga		Absent	Light green or yellowish-green



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