

## The natural choice

**Thyroid API**, also known as natural desiccated thyroid (NDT), is an animal-derived ingredient produced by Bioiberica.

Sourced from porcine thyroid glands, Thyroid API contains tetraiodothyronine (**levothyroxine, T<sub>4</sub>**) and triiodothyronine (**liothyronine, T<sub>3</sub>**) – two hormones naturally produced by the thyroid gland – at a fixed ratio of **4:1**.

### Characteristics

Safe | Effective | Natural origin | Produced in Europe | Complies with US Pharmacopoeia | GMP-certified | DMF available

### Target applications



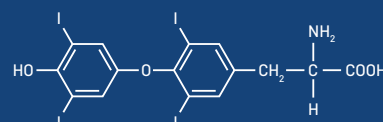
Pharmaceuticals



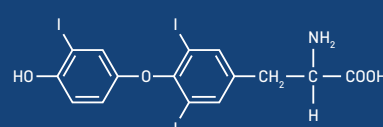
Compounded drugs

### Structural formulas

Levothyroxine (T<sub>4</sub>)



Liothyronine (T<sub>3</sub>)



### Guaranteed supply, quality & safety

Bioiberica stays in control of the supply chain, guaranteeing **full traceability, security and safety** of the final product.

#### Vertically-integrated supply chain

Complies with **GMP** and **ICHQ-11** guidelines



#### Source raw materials

- Porcine thyroid glands
- Partner with **specialised slaughterhouses** (EU animal welfare legislation compliance)
- Trained individuals select and clean porcine glands
- Glands are frozen to **prevent contamination** and raw material degradation

#### Extraction of Thyroid API

- Apply food-grade, non-toxic solvents to **remove impurities** and non-active substances
- Solvents are reused internally contributing to Bioiberica's **circular economy** and **sustainability goals**
- **Viral and bioburden inactivation** via drying system
- **Avoid cross-contamination, biological risk and elemental impurities**

#### Final solid operations

- Mill NDT – **homogenous T<sub>3</sub> and T<sub>4</sub> hormones**
- Excipient added to standardise product to **1 USP or 3 USP**

#### Quality testing

- Apply **Statistical Process Control (SPC)**
- Employ **risk analysis systems**
- **Ensures API contains hormones at the right concentration and is free of contamination**

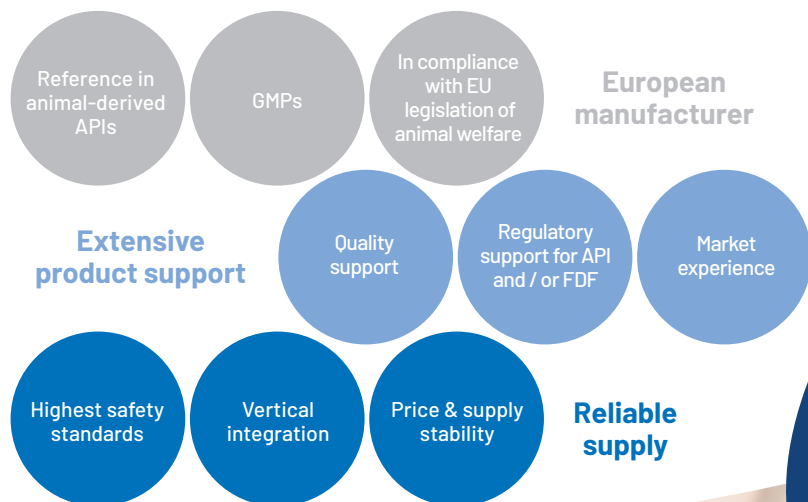
## Specifications

	THYROID 3XUSP	THYROID 1XUSP
PRODUCT	Thyroid F1775	Thyroid F1774
PACKING	Packaged in a triple bag in 20kg metal drum	Packaged in a triple bag in 20kg metal drum
STORAGE CONDITIONS	Stored at room temperature	Stored at room temperature
ANALYTICAL PHARMACOPOEIA	USP 41	USP 41
PER GRAIN OF THYROID	Liothyronine (T <sub>3</sub> ): 24.3 – 29.7 µg/grain Levothyroxine (T <sub>4</sub> ): 103 – 125 µg/grain	Liothyronine (T <sub>3</sub> ): 8.1 – 9.9 µg/grain Levothyroxine (T <sub>4</sub> ): 34.2 – 41.8 µg/grain
EXCIPIENT	No more than 40%	No more than 80%
DMF	Available under NDA	Available under NDA
GMP	Certificate of GMP compliance	Certificate of GMP compliance

## Dosage

Dosage conversion rate from synthetic L-T <sub>4</sub> to Thyroid API						
(1 mg Thyroid API = 1.667 µg(mcg) L-T <sub>4</sub> ) <sup>1</sup>						
L-T <sub>4</sub> (µg)	25	50	100	150	200	300
Thyroid API (mg)	15	30	60	90	120	180

## Your partner for taking healthcare further



Bioiberica is your innovation partner for Thyroid API. With more than 40 years' expertise in the identification and extraction of complex molecules from animal origin, Bioiberica is a global reference in animal-derived APIs. Through its vertically integrated supply chain, Bioiberica stays in control; guaranteeing the highest quality, safety and full traceability of its products, all of which are produced in Europe.

To accelerate healthcare developments and support patients worldwide using Bioiberica's Thyroid API, contact us today. Visit: [www.bioiberica.com](http://www.bioiberica.com) Email: [healthcare@bioiberica.com](mailto:healthcare@bioiberica.com) Call: **+34 93 490 49 08**

## References

1. United States Pharmacopeia Drug Information: Drug Information for the Health Care Professional. Vol 1. 20th ed. Greenwood Village, CO; 2000.