

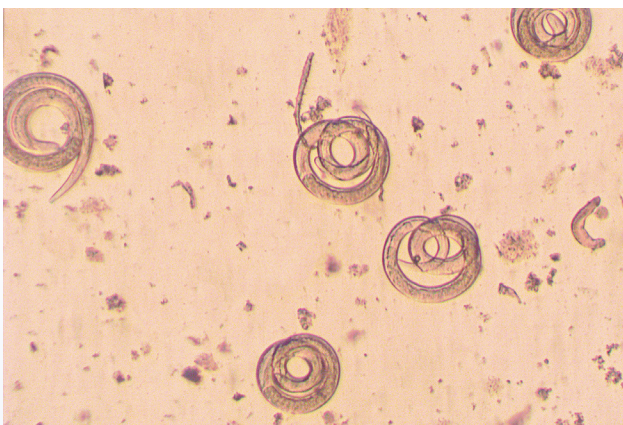


## Detection of *Trichinella* in meat according to EU Regulation 2015/1375

Meat of domestic swine, wild boar, horses and other animal species may be infested with nematodes of the genus *Trichinella*.

Consumption of meat infested with *Trichinella* can cause **serious disease** (trichinosis) in humans and even cause death.

Measures should be put in place to prevent human disease caused by the consumption of meat infested with *Trichinella*. The **Commission Regulation** (EU) 2015/1375 of 10 August 2015 establishes specific rules on **official controls** for *Trichinella* in meat. Various laboratory methods have been approved for the detection of *Trichinella* in fresh meat. In the Annex I of this Regulation is established the reference detection method and the reagents to be used. This method is based on **digestion** of fresh meat and the cysts containing the *Trichinella* larvae using a solution of pepsin in acid medium. The released larvae are examined in the trichinoscope or in the stereo-microscope.



*Trichinella spiralis*

**PanReac AppliChem offers the two reagents used in this method:**

- **Pepsin 1:10.000 NF** (US National Formulary) corresponding to 1:12.500 BP (British Pharmacopoeia) and to 2.000 FIP (Fédération internationale de pharmacie), or stabilised **Liquid Pepsin** with minimum 660 European Pharmacopoeia units/mL.
- **Hydrochloric Acid 25%**

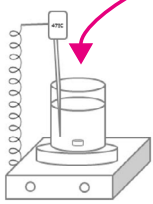
There are several **critical control points** that can affect in the reliability of the results. One of the most important points is the **quality of the pepsin**.

**We control two important parameters that can affect in the analysis:**

- The **proteolytic activity** which must be **according to the Regulation** to assure a **complete digestion** and to **avoid possible false negative results**.
- A **very low insoluble matter** in water to allow a **clear larvae visualisation**.

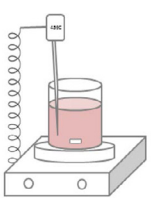


## Scheme of the reference detection method




2 L of tap water, preheated to 46 to 48 °C

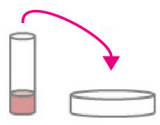
1. Add 16 ± 0.5 mL of hydrochloric acid 25%.
2. Add 10 ± 0.2 g of pepsin or 30 ± 0.5 mL of liquid pepsin.
3. Add 100 g of chopped blended meat samples.



Maintain a constant temperature of 44 to 46°C and stir for approx. 30 minutes until the meat particles disappear.





Pour the digestion fluid through the sieve into the sedimentation funnel. After 30 minutes, a 40 mL sample of digestion fluid is run off into the measuring cylinder or centrifuge tube.



Stand for 10 minutes and remove 30 mL from the upper layer. Leave a volume of 10 mL and pour into a larval counting basin or petri dish for examination in trichinoscope or stereo-microscope.

## Comparative of Pepsin 1:10.000 NF (code 175208) of PanReac AppliChem and another competitor (specified and actual value)

Determination	Specified value		Actual value	
	PanReac AppliChem	Competitor	PanReac AppliChem	Competitor
Identity	IR passes test	—	IR passes test	—
pH of 5% solution	3-5	4-5.5	4.2	4
Proteolytic activity	1:10.000 NF	1:10.000 NF	1:10.000 NF	1:5.000 NF
Insoluble matter in H <sub>2</sub> O	Passes test	—		

Product code	Product name	CAS number	Pack sizes
133378	Hydrochloric Acid 25% for analysis, ISO	7647-01-0	1 L, 2.5 L, 5 L
176408	Liquid Pepsin	9001-75-6	5 L
175208	Pepsin 1:10.000 NF	9001-75-6	1 kg
175748	Pepsin Pack	—	3 x 175208 (1 kg) 1 x 133378 (5 L)

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