

Thawing Super-Frozen *Maguro*: Recommended Technique for Best Results

Maguro (Tuna) frozen at an ultra-low temperature ("super-frozen *maguro*") is rapidly frozen to -60°C on fishing vessels immediately after being caught; this allows its freshness to be well preserved. If thawed in the correct way, it is possible to reproduce the freshness, texture, and flavor of just-caught tuna. However, the method of thawing will have a significant impact on how the tuna tastes. So it's vital to learn the best technique for thawing super-frozen *maguro*, so that you might enjoy it at its very best!

One of the best-known methods for thawing super-frozen *maguro* is the warm salt water method, in which the *maguro* is thawed in warm, salted water. While this does allow for quick thawing, various factors—such as the temperature of the room, the temperature of the *maguro*, the size of the block being defrosted, and the level of fat on the *maguro*—can have a significant impact on the outcome, meaning that it takes a certain level of expertise to get right. This makes it a technique best used by professionals only.

Here, we introduce a method for thawing *maguro* blocks at home – the ice water thawing method. This is a recently developed method, designed to enable anyone to thaw *maguro* easily and successfully, with no risk of error and delicious results.

Frozen *maguro* starts to thaw at around -2°C . If the temperature rises more than necessary during the thawing process, damage will be caused to the *maguro* cells, and the *maguro*'s natural umami will be lost, along with the thawing drip, and the taste of the *maguro* will be affected. In contrast, by taking the time to thaw frozen *maguro* in ice water, thawing drip can be kept to a minimum, thereby also preventing the loss of umami from the *maguro*. As a result, the true deliciousness of the *maguro* can be enjoyed.

The below sets out this recommended technique.

Ice Water Thawing Method

- Step 1: Prepare the block of *maguro* for thawing. Remove any ice crystals on the surface quickly by holding the block under running water.
- Step 2: Immediately and thoroughly dry any moisture from the block using kitchen paper.
- Step 3: Take the dried *maguro* block and place it inside a freezer bag. Carefully remove as much air as possible from the bag, seal it tightly, and place it in ice water. Weight down the block and leave, covered entirely by ice water, for 1-1.5 hours.
- Step 4: Remove the *maguro* from the freezer bag and wipe the surface with kitchen paper. Wrap the block in fresh kitchen paper.
- Step 5: Leave the block to rest in the refrigerator to allow the flavor to develop. It is thought best to leave the block for 6-8 hours (half a day).



***Maguro* before thawing**



***Maguro* after ice**

About thawing

Maguro (Tuna) which has been frozen at ultra-low temperatures ("super-frozen *maguro*") can sometimes take on a dark-reddish hue when stored in domestic freezers. This change in color is the result of a substance called myoglobin, which contains flesh-coloring pigments, coming into contact with oxygen. The resulting oxidation generates metmyoglobin, which causes the color change. Oxidation (discoloration) will occur most rapidly when the surface temperature of the *maguro* is around 0°C to -5°C, and the internal temperature is around -5°C to -7°C. As such, during the thawing process it is important that this temperature zone is passed through quickly – this is the secret to preserving *maguro*'s just-caught freshness and color. During thawing, the temperature of the surface will rise rapidly, and start to thaw quickly, but it takes time for the internal temperature to catch up and start to thaw. This means that the quality of the surface will decline during the time it takes for the inside of the block to thaw. There are a number of different thawing methods, each of which is intended to try and reduce the time it takes to pass through the temperature zone at which the *maguro* is at greatest risk of declining in quality.