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Analysis of Factors Affecting Gelatin Degradation Assay and Countermeasures

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1 *Works for me* This protocol is published without a DOI.

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ABSTRACT

Edible gelatin belongs to the animal gelatin category of hydrophilic colloid/edible gelatin, which is made from the collagen part of connective tissues such as animal skin, bone, muscle membrane and muscle enchantment. Gelatin has many excellent properties, which makes it a good hand in food processing industry.

The main factors affecting the gelatin degradation assay are temperature, bacteria and pH.

EXTERNAL LINK

https://www.creative-proteomics.com/services/gelatin-degradation-assay.htm

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MATERIALS TEXT

Temperature factor
Temperature is the sensitive point of edible gelatin. The increase of gelatin temperature will affect the viscosity and gel strength of gelatin. At any stage of gelatin solution, as long as the temperature increases, it will be damaged to different degrees.

Corresponding measures for the effect of temperature
Obviously, the control of temperature is crucial in the preparation and use of edible gelatin. The chance of contact between the solution and temperature should be minimized, and it is best to make it easy to use.

Bacteria factor
For bacteria, edible gelatin solution and soaked and expanded edible gelatin are good culture medium for bacteria. If bacteria exist in edible gelatin solution, gelatin viscosity and gel strength will be lost.

Corresponding measures for bacterial influence
Regarding bacteria, it is still necessary to mainly use gelatin in the process of equipment and environmental hygiene, to prevent bacterial contamination and degradation of edible gelatin.

pH factor
Acid or base will make edible gelatin solution gel strength, viscosity and so on seriously reduced.

Corresponding measures for the effect of pH
Edible gelatin solution should avoid acid or alkali degradation of gelatin in the process of use, so it is necessary to save edible gelatin in solution without acid and alkali. The actual method used is to put the edible gelatin at the end of all the ingredients and to add it at a low temperature. Do not boil edible gelatin with syrup. When adding edible gelatin to syrup, be sure to cool the syrup to the lowest possible temperature after the syrup has been boiled.

Alkali and acid edible gelatin can not be mixed. Alkali and acid edible gelatin can not be mixed. If they are mixed, the edible gelatin solution will be turbidity, which depends on the pH value of the solution and the ratio of the two. When a food gelatin is used alone, turbidity will also occur when the pH value of the solution is close to the isoelectric point of the food gelatin. This is the isoelectric point phenomenon. As long as the pH value of the solution is changed, the solution can be restored to transparency and clarification.

Also pay attention to the gelatin strength during the eating process. Gelatin strength, solubility, and particle size vary greatly. Gelatin looks similar from source to source, but the mechanical properties of a particular grade of gelatin or mixture are not the same after solidification.

You've got these tips about edible gelatin. Don't underestimate them. They can have a big effect on preventing the degradation of edible gelatin.