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(72) Inventors: and


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(57) Abstract

Breads having excellent taste and flavor obtained by uniformly dispersing 5'-ribonucleotide salts coated with a fat or oil or the like in a raw flour material.
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DESCRIPTION

BREADS AND THEIR PRODUCTION

Technical Field
The present invention relates to breads and their production. Particularly, it relates to breads having improved taste and flavor and obtained by uniformly admixing 5'-ribonucleotide salts coated by a fat or oil or the like with wheat flour to be used as the raw material, and their production.

Background Art
Breads are produced by mixing and kneading raw materials such as wheat flour, yeast, salts, sugars, fats and oils, dairy products, eggs and the like and then subjecting the resulting dough mass to a heat treatment as it is, or after fermentation. In the production of breads, various additives such as L-ascorbic acid and its salts, ammonium chloride, calcium sulfate, fats and oils, surfactants, water-soluble polymers, yeast extract and the like are used for promoting fermentation by yeast, reinforcing network of gluten and improving appearance, texture, flavor and the like.

On the other hand, seasonings such as sodium glutamate, sodium 5'-ribonucleotide and the like have an
effect for improving taste and flavor of foods and they have been used in almost all foods. However, they have not been used for the production of breads. In fact, the addition of such seasonings to breads has been considered to be difficult because, if sodium glutamate is added, breads are liable to cause coloring such as browning during the heat treatment and, in the case of sodium 5'-ribonucleotide, it is degraded by phosphatase in wheat flour during mixing and kneading the raw materials to lose its seasoning effect.

Because of these reasons, particularly, in cooked breads such as hamburger, hot dog, sandwich, pizza and the like, such seasonings have been used only in filling or topping materials to improve taste and flavor thereof.

Recently, as eating habits have become rich in variety, various breads have been produced and it is requested to improve taste and flavor of the dough itself to enrich varieties of breads.

**Objects of the Invention**

One object of the present invention is to provide breads containing 5'-ribonucleotide salts with preventing loss of their seasoning effect.

Another object of the present invention is to provide a process for producing breads containing 5'-ribonucleotide salts with preventing loss of their seasoning effect.
These objects as well as other objects and advantages of the present invention will become apparent to those skilled in the art from the following description.

**Summary of the Invention**

In order to improve taste and flavor of breads, the present inventors have studied intensively. As a result, it has been found that breads having excellent taste and flavor can be obtained by using 5'-ribonucleotide salts coated by fats and oils and the like in the production of breads according to the conventional method.

That is, it has been found that, when breads are produced by uniformly admixing 5'-ribonucleotide salts coated by fats and oils and the like with wheat flour and processing according to the conventional method, breads having excellent quality and enhanced flavor with minimizing peculiar powdery flavor of wheat flour can be obtained.

According to a present invention, there is provided breads comprising 0.003 to 0.5% by weight of 5'-ribonucleotide salts based on the raw flour material thereof, said 5'-ribonucleotide salts being distributed throughout the breads.

The present invention also provides a process for producing breads which comprises uniformly admixing a coated preparation of 5'-ribonucleotide salts with the raw flour material thereof in an amount of 0.003 to 0.5% by weight as
5'-ribonucleotide salts based on the flour.

Disclosure of the Invention

The term "breads" used herein means those produced by using wheat flour or rye as main raw materials, optionally adding yeast, salt, sugar, fats and oils, and the like, kneading a mixture of raw materials with water, and then subjecting the resulting dough to heat treatment as it is, or after fermentation. They may be those made by either of "straight dough method" or "sponge dough method". Examples thereof include breads (e.g., white bread, whole wheat bread, graham bread, nugget bread, germ bread, punpani bread, rye bread, corn bread, oatmeal bread, soya bread, rice bread, onion bread, carrot bread, raisin bread, etc.); soft roll breads (e.g., table roll, soft roll, dinner roll, hot dog roll, parker house roll, hamburger-buns, butter roll, cheese roll, raisin roll, etc.); hard roll breads (e.g., french bread, german bread, italian bread, winner bread, wiener bread, kaiser-semmel, etc.); Japanese-style confectionery breads (e.g., bean-jam bun, cream bun, jam bun, etc.); confectionery breads (those containing not less than 10 % sugars such as danish pastry, sweet roll, etc.); cooked breads (e.g., ham bread, ham roll, sausage roll, mincemeat roll, pizza, sandwich, hamburger, hot dog, piroshki, etc.) and the like.

The 5'-ribonucleotide salts used in the present
invention include, for example, sodium, potassium and calcium salts of 5'-inosinic acid, 5'-guanylic acid, 5'-adenylic acid, 5'-uridylic acid and 5'-cytidylic acid. They are used alone or in combination thereof.

The coated preparation of 5'-ribonucleotide salts used in the present invention is 5'-ribonucleotide salts coated with a coating agent.

As the coating agent, fats and oils and/or waxes having a melting point of about 40 to 95°C are used. As the fats and oils, any edible fat or oil having a melting point of about 40 to 95°C can be used. Examples of fats and oils include vegetable or animal fats and oils composed of glycerides (including monoglycerides, diglycerides and triglycerides) and their hydrogenated products. For example, hydrogenated tallow, hydrogenated fish oil, hydrogenated whale oil, hydrogenated rapeseed oil, hydrogenated soybean oil, hydrogenated peanut oil, hydrogenated castor oil, hydrogenated cottonseed oil, hydrogenated safflower oil, hydrogenated rice bran oil and the like can be used.

Waxes used in the present invention include natural waxes such as animal, vegetable and mineral waxes. Examples thereof include candelilla wax, rice bran wax, carnauba wax, beeswax, paraffin wax and the like.

These fats and oils and/or waxes can be used as the main components of the coating agent and are selected
depending on a particular kind of breads to be used.

Optionally, it is also effective to formulate fatty acids and/or surfactants within the range of the melting point described above.

Fatty acids used in the present invention include straight-chain saturated or unsaturated fatty acids having not less than 12 carbon atoms. For example, there can be used lauric acid, myristic acid, palmitic acid, stearic acid, oleic acid, linolic acid, arachic acid, arachidonic acid, behenic acid, lignoceric acid and the like.

Further, the surfactant used in the present invention include glycerides (e.g., glycerides, fatty acid esters of glycerol acetic acid, fatty acid esters of glycerol lactic acid, fatty acid esters of glycerol citric acid, fatty acid esters of glycerol succinic acid, fatty acid esters of glycerol diacetyltartaric acid, glycerol acetic ester, fatty acid esters of polyglycerides, polyglycerol-condensed ricinoleate ester, etc.); sucrose fatty acid esters (e.g., sucrose fatty acid esters, sucrose isobutyrate esters, etc.); sorbitan fatty acid esters, lecithin (e.g., phospholipids including phosphatidylcholine, phosphatidylethanolamine, phosphatidylinositol, etc.) and the like.

The ratio of the coating agent and fatty acids and/or surfactants optionally added can be freely selected and they can be combined with each other depending on a
coating method and a purpose of the resulting coating preparation so that the melting point is suitable for the purpose.

Any of the following coating method can be used. In general, as a method for coating a substance, the following three methods are known. The first method is referred to as "spray-chilling method" (or "spray-cooling method") wherein a substance to be coated (core substance) is suspended in a molten mixture of a fat or oil and/or wax, followed by granulation by spraying with a spray or rotary disc in a cooled gas flow to obtain a coated preparation. For example, fine particles of sodium 5'-ribonucleotide is added and dispersed in a previously molten coating agent (fat or oil, wax, etc.) at 95°C and then granulation by spraying with a rotary disc or a nozzle in a cooling tower at 25°C.

The second method is referred to as "flow-coating method" wherein a core substance is floated in a gas flow from the lower part of an equipment or fluidized in a coating pan and a fat or oil and/or wax as it is or in the form of a solution in a solvent is sprayed from the upper or side part, followed by cooling or removing the solvent to obtain a coated preparation. For example, there is a method wherein calcium 5'-ribonucleotide powder is fluidized in a gas flow, followed by granulation by spraying a liquid coating agent (a mixture of a fat or oil, a wax and a
surfactant which are previously molten with heating at 90 to 100°C, or stearic acid dissolved in a solvent such as ethyl alcohol heated at 60°C).

The third method is that wherein a core substance is dispersed in a molten fat or oil or wax, followed by solidification with cooling and then grinding to obtain a coated preparation. For example, a method wherein a dispersion liquid of sodium 5'-ribonucleotide obtained in the above first method before spraying is once solidified with cooling, followed by grinding to conduct coating can be employed.

By subjecting the coated preparation thus obtained to double or triple coating with a coating agent having the same or different composition, coating effects can be further enhanced.

The amount of 5'-ribonucleotide salts thus obtained to be added to breads is 0.003% as sodium 5'-ribonucleotide [0.009% as a coated preparation of calcium 5'-ribonucleotide "Ribocat EC" (manufactured by Takeda Chemical Industries, Ltd.; containing 35% calcium 5'-ribonucleotide), or 0.09% as a coated preparation "Ribocat Powder EC-10K" (manufactured by Takeda Chemical Industries, Ltd.; containing 3.5% calcium 5'-ribonucleotide and 89.4% sodium glutamate)] to 0.5% [1.43% as "Ribocat EC", or 14.3% as "Ribocat Powder EC-10K"], preferably 0.0035% [0.01% as "Ribocat EC", or 0.1% as "Ribocat Powder EC-10K"] to 0.35% [1.0% as "Ribocat
EC", or 10% as "Ribocoat Powder EC-10K"] based on wheat flour as calculated. More preferably, in breads having plain taste, the amount is preferably 0.0035 to 0.175% [0.01 to 0.5% as "Ribocoat EC", or 0.1 to 5.0% as "Ribocoat Powder EC-10K"] and, in breads or cooked breads using fillings such as hamburger-buns, hot dog roll, or breads for pizza or sandwich, etc., the amount is preferably 0.0105 to 0.28% [0.03 to 0.8% as "Ribocoat EC", or 0.3 to 8.0% as "Ribocoat Powder EC-10K"] and, further, for bread crumbs, the amount is preferably 0.0175 to 0.35% [0.05 to 1.0% as "Ribocoat EC", or 0.5 to 10% as "Ribocoat Powder EC-10K"] as calculated in terms of sodium 5'-ribonucleotide. All the percents described above are by weight. In any case, in order to improve flavor, it is effective to use 5'-ribonucleotide salts in combination with sodium glutamate. The preferred ratio is 5 to 30 parts by weight of sodium glutamate per 1 part by weight of 5'-ribonucleotide salts.

As described above, according to the present invention, there is provided breads having improved taste and flavor and, thereby, eat habits are rich in variety.

The following Examples further illustrate the present invention in detail but are not to be construed to limit the scope thereof. In the Examples, all "parts" and "percents" are by weight unless otherwise stated.

Example 1
Formulation 1
Wheat flour (high gluten flour) 700 g (100 parts)  
Dry yeast 7 g (1 part)  
Sugar 28 g (4 parts)  
Salt 12 g (1.7 parts)  
Butter 28 g (4 parts)  
Skimmed milk 17 g (2.4 parts)  
Water 470 g (67 parts)  
Coated preparation 2.1 g (0.3 parts)  

A coated preparation of calcium 5'-ribonucleotide "Ribocoat Powder EC-10K" (2.1 g) was added to the mixture of the other ingredients followed by kneading with a dough mixer for 20 minutes. The resulting dough was subjected to fermentation at 30°C for 45 minutes, followed by degassing and further fermentation at 30°C for 30 minutes. Then, the dough was molded and subjected to fermentation and then baked at 180°C for 30 minutes to obtain a plain bread (Sample A).

As a control, a plain bread was obtained according to the same manner as described in the above except that sodium 5'-ribonucleotide "Ribotide Powder 5" (manufactured by Takeda Chemical Industries, Ltd.; containing 95% sodium glutamate; 2.0 g) was used instead of the coated preparation (Sample B).

Each bread was cooled at room temperature for 3 hours and then their flavor and taste were tested organoleptically by 20 panellists, and a residual ratio of
5'-ribonucleotide was determined. The results are shown in Table 1.

As is seen from Table 1, the plain bread obtained by the process of the present invention (Sample A) was apparently superior in flavor and taste in comparison with Sample B. On the other hand, according to the determination result of 5'-ribonucleotides, the uncoated sodium 5'-ribonucleotide in Sample B was completely degraded 5'-ribonucleotide, while almost all of 5'-ribonucleotides in Sample A of the present invention was remained.

Table 1

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<tr>
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<th>Sample A</th>
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<tr>
<td>Number of panellists who</td>
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<td>2</td>
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<tr>
<td>judged as good flavor</td>
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<td></td>
</tr>
<tr>
<td>Number of panellists who</td>
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<td>1</td>
</tr>
<tr>
<td>judged as good taste</td>
<td></td>
<td></td>
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<tr>
<td>Residual % of 5'-ribonucleotides</td>
<td>96</td>
<td>0</td>
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</table>

Example 2

Formulation 2

Wheat flour (high gluten flour) 140 g (100 parts)
Wheat flour (low gluten flour) 140 g (100 parts)
Dry yeast 6 g (4.2 parts)
Sugar 18 g (13 parts)
Salt 1.5 g (1 part)
Olive oil 5 g (3.6 parts)
Milk 190 g (64 parts)
Coated preparation 1.4 g (1 part)

A coated preparation of calcium 5'-ribonucleotide "Ribocoat Powder EC-10K" (1.4 g) was added to a mixture of the other ingredients, followed by kneading and fermentation with Takeda home bakery [TAB-01 type; sold by Takeda Chemical Industries, Ltd.] to obtain a dough. Then, the resulting dough was taken out, subjected to fermentation for 20 minutes and degassed. The dough was divided into pieces (each 30 g) and molded into a pizza dough, respectively. Then, pizza sauce (10 g), a sliced pimento (3 pieces), a sliced salami sausage (2 pieces) and grated cheese (10 g) were placed on the pizza dough and baked at 200°C for 7 minutes (Sample C).

As a control, a pizza was obtained according to the same manner as that described above except that "Ribotide Powder-5" (1.4 g) was used instead of the coated preparation (Sample D).

Flavor and taste of each pizza immediately after baking were organoleptically tested by 20 panellists, and the residual ratio of 5'-ribonucleotides was determined. The results are shown in Table 2.

As is seen from Table 2, the pizza obtained by the process of the present invention was superior in flavor and taste in comparison with Sample D. On the other hand,
according to the determination result of 5'-ribonucleotides, 5'-ribonucleotide was completely degraded in Sample D using uncoated sodium 5'-ribonucleotide, while almost all of 5'-ribonucleotide was remained in Sample C obtained by the process of the present invention.

Table 2

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<th>Sample C</th>
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<tr>
<td>Number of panellists who judged as good flavor</td>
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<td>2</td>
</tr>
<tr>
<td>Number of panellists who judged as good taste</td>
<td>19</td>
<td>1</td>
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<tr>
<td>Residual % of 5'-ribonucleotide</td>
<td>97</td>
<td>.0</td>
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Example 3

Formulation 3

Wheat flour (high gluten flour) 250 g (100 parts)
Dry yeast 2.5 g (1 part)
Sugar 10 g (4 parts)
Skimmed milk 6 g (2.4 parts)
Salt 4 g (1.6 parts)
Butter 10 g (4 parts)
Coated preparation 7.5 g (3 parts)

A coated preparation of calcium 5'-ribonucleotide "Ribocoat Powder EC-10K (7.5 g) was admixed with the other ingredients and a plain bread was produced with Takeda home
bakery. Then, the resulting bread was aged with cooling in a refrigerator overnight to cause retrogradation and ground with a mixer, and then passed through No. 7 mesh screen. The resulting ground material was dried at 60°C for 3 hours to obtain bread crumbs having a water content of 10.5% (Sample E).

As a control, bread crumbs were obtained according to the same manner as that described above except that "Ribotide Powder 5" (7.5 g) was used instead of the coated preparation (Sample F).

Then, by using these bread crumbs, fried prawn (black tiger), fried white flesh-fish (codfish) and croquette (beef) were made.

Taste and flavor of each fried product and croquette were tested organoleptically by 20 expert panellists.

As a result, regarding taste, 19 panellists judged that Sample E was superior in both fried products and croquette. Regarding flavor, 18 out of 20 panellists judged that Sample E was superior in flavor of the raw material (prawn, codfish) Further, regarding taste, 20 out of 20 panellists judged that Sample E was preferred.

Example 4

Formulation 4

Wheat flour (high gluten flour)  \(500 \text{ g (100 parts)}\)

Yeast  \(20 \text{ g (4 parts)}\)
Sugar 50 g (10 parts)
Skimmed milk 20 g (4 parts)
Salt 10 g (2 parts)
Shortening 50 g (10 parts)
Whole egg 30 g (6 parts)
Yeast food 0.5 g (0.1 parts)
malt solution 2.5 g (0.5 parts)
Coated preparation 3 g (0.6 parts)

A coated preparation of calcium 5'-ribonucleotide
"Ribocoat EC" (manufactured by Takeda Chemical Industries, Ltd.; containing 35% calcium 5'-ribonucleotide; 3 g) was
admixed with the other ingredients, followed by kneading at
a low rate for 5 minutes and further at a high rate with a
dough mixer. The resulting dough was subjected to
fermentation at 28°C for 1.5 hours and degassed. Then, the
dough was allowed to stand for 18 minutes. The dough was
then molded into pieces (about 70 g/piece), followed by
fermentation at 37°C for 45 minutes and then baking at 220°C
for 6 minutes to obtain hamburger-buns (Sample G).

As a control, hamburger-buns were obtained
according to the same manner as that described above except
that Ribotide (manufactured by Takeda Chemical Industries,
Ltd.; sodium 5'-ribonucleotide; 1.05 g) was used instead of
the coated preparation (Sample H).

By using hamburger steak (about 40 g) made by a
conventional method, taste of flavor of the buns were tested
organolectrically by 10 expert panellists.

As a result, all panellists pointed out that Sample G was superior in both taste and beef-flavor and Sample G was preferred.

**Example 5**

**Formulation 5**

**Sponge**

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<th>Ingredient</th>
<th>Mass</th>
<th>(Parts)</th>
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<td>Wheat flour (high gluten flour)</td>
<td>250.0 g</td>
<td>(100.0 parts)</td>
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<tr>
<td>Yeast</td>
<td>9.0 g</td>
<td>(3.6 parts)</td>
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<tr>
<td>Salt</td>
<td>1.8 g</td>
<td>(0.7 part)</td>
</tr>
<tr>
<td>Glucose</td>
<td>18.0 g</td>
<td>(7.2 parts)</td>
</tr>
<tr>
<td>Water</td>
<td>192.0 g</td>
<td>(76.8 parts)</td>
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**Dough**

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<th>Ingredient</th>
<th>Mass</th>
<th>(Parts)</th>
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<tbody>
<tr>
<td>Wheat flour (medium gluten flour)</td>
<td>750.0 g</td>
<td>(100.0 parts)</td>
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<tr>
<td>Shortening</td>
<td>137.0 g</td>
<td>(18.3 parts)</td>
</tr>
<tr>
<td>Salt</td>
<td>7.0 g</td>
<td>(0.9 part)</td>
</tr>
<tr>
<td>Baking powder</td>
<td>3.0 g</td>
<td>(0.4 part)</td>
</tr>
<tr>
<td>Water</td>
<td>55.0 g</td>
<td>(7.3 parts)</td>
</tr>
<tr>
<td>Coated preparation</td>
<td>1.0 g</td>
<td>(0.13 part)</td>
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</table>

The ingredients of the sponge was mixed with a dough mixer for 2 minutes and the mixture was fermented at 22°C for 18 hours. When the fermentation of the sponge was almost completed, a coated preparation of calcium 5'-ribonucleotide "Ribocoat EC" (manufactured by Takeda Chemical Industries, Ltd.; containing 35% calcium 5'-ribonucleotide; 1 g) was admixed with the other ingredients
of the dough and kneaded with a dough mixer for 1 minute. The fermented sponge was added to the dough and the mixture was mixed for 3 minutes and fermented at 27°C for 4 hours. After completion of the fermentation, the mixture was rolled into a sheet of 2 mm in thickness with a dough sheeter and cut into 30 mm x 70 mm pieces. After punching, the pieces were baked at 270 to 300°C for 4 minutes to obtain soda crackers (Sample I).

As a control, crackers were obtained according to the same manner as that described above except that Ribotide (manufactured by Takeda Chemical Industries, Ltd.; sodium 5'-ribonucleotide; 0.35 g) was used instead of the coated preparation (Sample J).

After baking, each sample was cooled to 25°C and taste and flavor were tested organoleptically by 20 expert panellists.

As a result, 18 out of 20 panellists pointed out that Sample I was superior in taste. Further, 13 panellists of the 18 panellists who pointed out that Sample I was superior in taste pointed out that Sample I did not have any powdery flavor and was superior in flavor.

Example 6
Formulation 6
Dough
Wheat flour (high gluten flour: 224.0 g (100.0 parts)
low gluten flour=144.0 g :
80.0 g)
Sugar  24.0 g (10.7 parts)
Lard  10.4 g (4.6 parts)
Salt  4.0 g (1.8 parts)
Baking powder  1.4 g (0.6 parts)
Dry yeast  2.4 g (1.1 parts)
Water  132.0 g (58.9 parts)
Coated preparation  0.7 g (0.3 part)

**Meat filling**

Pork  50.0 g (100.0 parts)
Onion  50.0 g (100.0 parts)
Blanched cabbage  25.0 g (50.0 parts)
Vegetable protein  10.0 g (20.0 parts)
Bamboo shoot  10.0 g (20.0 parts)
Lard  7.0 g (14.0 parts)
Bread crumbs  7.0 g (14.0 parts)
Sugar  7.0 g (14.0 parts)
Soy sauce  6.0 g (12.0 parts)
Starch  5.0 g (10.0 parts)
Salt  1.0 g (2.0 parts)
Garlic  1.0 g (2.0 parts)
Sodium glutamate  1.0 g (2.0 parts)
Sesame oil  1.0 g (2.0 parts)

A coated preparation of calcium 5'-ribonucleotide "Ribocoat Powder EC-10K" (manufactured by Takeda Chemical Industries, Ltd.), 0.7 g was added to the other ingredients.
of the dough and mixed with a dough mixer and the mixture was fermented at 30°C for 1.5 hours. After degassing, the dough was divided into about 60 g pieces and further fermented at 30°C for about 20 minutes. Each piece was rolled into a circular sheet of 12 cm in diameter. The meat filling (about 25 g) was placed on the center of the sheet and wrapped with the sheet. After fermentation at 30°C for 20 minutes, it was steamed with a steamer for 20 minutes to obtain a meat-bun (Sample K).

As a control, a meat-bun was obtained according to the same manner as that described above except that Ribotide Powder-5 (manufactured by Takeda Chemical Industries, Ltd.; containing sodium 5'-ribonucleotide 5% and sodium glutamate 95%; 0.7 g) was used instead of the coated preparation (Sample L).

Taste and flavor of each sample were tested organoleptically by 20 expert panellists. As a result, 17 out of 20 panellists pointed out that Sample K was superior in taste.
CLAIMS

1. Breads comprising 0.003 to 0.5% by weight of 5'-ribonucleotide salts based on a raw flour material thereof, said 5'-ribonucleotide salt being distributed throughout the breads.

2. Breads according to claim 1, wherein the raw flour material is wheat flour.

3. Breads according to claim 1, wherein the raw flour material is rye flour.

4. Breads according to claim 1, wherein the 5'-ribonucleotide salt is one or more selected from the group consisting of sodium, potassium and calcium salts of 5'-ribonucleotide.

5. Breads according to claim 4, wherein the 5'-ribonucleotide is one or more selected from the group consisting of 5'-inosinic acid and 5'-guanylic acid.

6. A process for producing breads which comprises admixing a coated preparation of 5'-ribonucleotide salts with a raw flour material thereof in an amount of 0.003 to 0.5% by weight as 5'-ribonucleotide salts based on the flour.

7. A process for producing breads according to claim 6, wherein the raw flour material is wheat flour.

8. A process for producing breads according to claim 6, wherein the raw flour material is rye flour.
9. A process for producing breads according to claim 6, wherein the 5'-ribonucleotide salt is one or more selected from the group consisting of sodium, potassium and calcium salts of 5'-ribonucleotide.

10. A process for producing breads according to claim 9, wherein the 5'-ribonucleotide is one or more selected from the group consisting of 5'-inosinic acid and 5'-guanylic acid.
### INTERNATIONAL SEARCH REPORT

**International Application No:** PCT/JP 91/00275

#### I. CLASSIFICATION OF SUBJECT MATTER

According to International Patent Classification (IPC) or to both National Classification and IPC

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#### II. FIELDS SEARCHED

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Documentation Searched other than Minimum Documentation to the Extent that such Documents are Included in the Fields Searched

#### III. DOCUMENTS CONSIDERED TO BE RELEVANT

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<td>EP,A,60903 (AJINOMOTO) 29 September 1982 see page 3, lines 7 - 9 see page 5, lines 1 - 10</td>
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<td>WO,A,8803365 (GEORGE WESTON FOODS LTD) 19 May 1988</td>
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- **Y** document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step
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#### IV. CERTIFICATION

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International Searching Authority: EUROPEAN PATENT OFFICE

Signature of Authorized Officer: TURMO Y BLANCO C.
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For more details about this annex: see Official Journal of the European Patent Office, No. 12/82