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| (54)Title: INTRAORALLY RAPIDLY DISINTEGRABLE TABLET                                                                                                                                                                                                                                                                                        |  |                                                                                                                                                                                                                   |                           |
| (54)発明の名称 口腔内速崩壊錠                                                                                                                                                                                                                                                                                                                          |  |                                                                                                                                                                                                                   |                           |
| (57) Abstract<br>An intraorally rapidly disintegrable tablet having an average particle diameter of not more than 30 $\mu$ m and comprising a sugar alcohol or a saccharide, an active ingredient, and a disintegrator. This tablet requires no special formulation technique and can be simply and easily prepared in ordinary equipment. |  |                                                                                                                                                                                                                   |                           |

#### ABSTRACT

A tablet comprising sugar alcohol or saccharide having an average particle diameter of not more than 30  $\mu$  m, an active ingredient, and a disintegrant.

It is an intraorally rapidly disintegrable tablet which does not require a special  
5 pharmaceutical manufacturing technology and can be simply and easily  
produced by a normal equipment.



## INTRAORALLY RAPIDLY DISINTEGRABLE TABLET

### Technical Field

This invention relates to a tablet rapidly disintegrable in an oral cavity.

### Background Art

- 5        There are various types of oral administrative medicines: tables, capsules, granules, powders, syrups and so on. However, such oral administrative medicines have several problems as follows. As to tablets and capsules, for example, it may be hard for aged persons or children whose swallowing power is weak to swallow them. And as to granules and powders,
- 10       they may cause unpleasantness in a mouth after dosage or they may erroneously happen to enter into a respiratory tract or lungs. Further, they can not be taken where there is no water because water is usually required for dosage. As for syrups, it takes trouble for measuring on dosage and it is not be expected that aged persons or children measure them accurately. On
- 15       the other hand, solid medicines which can be rapidly dissolved or disintegrated in an oral cavity can be taken without measuring or water, so they may be easily taken by such aged persons or children. By the way, there have been developed several types of medicines which can be rapidly dissolved or disintegrated in an oral cavity on dosing. For instance, in
- 20       JP-B-62-50445, solid medicines which can be produced from water solution that mainly contains gelatin including an active ingredient by use of freeze drying method are disclosed. And in WO93/12769, solid medicines which can be produced by drying suspension including agar are also disclosed.
- However, the medicines produced by the above-mentioned prior method do not have enough hardness to be taken out by pushing from PTP packages



(Press Through Pack) containing the medicines. And, they require a special pharmaceutical manufacturing technology and also require an enormous investment in plants and equipments. JP-A-5-271054 and WO93/15724 disclose production methods of tables wherein tablets composed of saccharide and produced in such a manner that

5 saccharide mixture supplied with appropriate water is compressed at a low pressure and then dried to make solid tablets. However, such methods also require a special pharmaceutical manufacturing technology and have the fear that powder composed of the tablets may adhere to the surface of a metal mold in compression process under moistening condition. It may be therefore difficult to utilize those methods for

10 manufacturing on an industrial scale.

#### Disclosure of the Invention

The inventors of the present invention have examined an intraorally rapidly disintegrable tablet which does not require a special pharmaceutical manufacturing technology and can be simply and easily produced by a normal equipment. As a result,

15 they have found that the compressed tablet consisting essentially of sugar alcohol or saccharide, such as D-mannitol or lactose, having an average particle diameter of not more than 30  $\mu\text{m}$  as a main ingredient, an active ingredient and a disintegrant can be disintegrated in a mouth within one minute and have hardness adequate for practical use, although such tablet has been considered unable to produce for a long time.

20 According to a first aspect the invention provides an intrabuccally rapidly disintegrating tablet, formed from compressed granules, said granules comprising in mixed powdered form:



a medicative ingredient as active ingredient;

a disintegrant; and

a main ingredient selected from the group consisting of a sugar alcohol and/or a saccharide, each having an average particle size of less than 30 $\mu$ m in diameter.

- 5        According to a second aspect the invention provides an intrabuccally rapidly disintegrating tablet, formed from compressed granules, said granules comprising in mixed powdered form:

a medicative ingredient as active ingredient;

a disintegrant; and

- 10    a main ingredient selected from the group consisting of a sugar alcohol and/or a saccharide, each pulverized into an average particle size of less than 30 $\mu$ m in diameter before the step of granulating said granules.

According to a third aspect the invention provides a production method for an intrabuccally rapidly disintegrating tablet, comprising the steps of:

- 15    preparing mixed powdered components including a main ingredient selected from the group consisting of a sugar alcohol and/or a saccharide, each of which has an average particle size of less than 30 $\mu$ m in diameter, a medicative ingredient as an active ingredients, and a disintegrant;

producing granules granulating said mixed powdered components; and

- 20    compressing said granules.

According to a fourth aspect the invention provides a production method for an intrabuccally rapidly disintegrating tablet, comprising the steps of:



pulverizing a main ingredient selected from the group consisting of a sugar alcohol and/or a saccharide, into an average particle size of less than 30µm in diameter; preparing mixed powdered components including said main ingredient pulverized into an average particle size of less than 30µm in diameter, a medicative ingredient as an  
5 active ingredients, and a disintegrant;  
producing granules granulating said mixed powdered components; and  
compressing said granules.

According to a fifth aspect the invention provides a base material for an intrabuccally rapidly disintegrating tablet, comprising granules which are produced by  
10 granulating a mixture comprising:  
a disintegrant; and  
a main ingredient selected from the group consisting of a sugar alcohol and/or a saccharide, each having an average particle size of less than 30µm in diameter.

According to a sixth aspect the invention provides a base material for an  
15 intrabuccally rapidly disintegrating tablet, comprising granules which are produced by granulating a mixture comprising:  
a disintegrant; and  
a main ingredient selected from the group consisting of a sugar alcohol and/or a saccharide, each pulverized into an average particle size of less than 30µm in diameter  
20 before granulating said granules.



In the present invention, such as D-mannitol, solbitol, or the like, which is widely used for drugs and food, can be used as sugar alcohol, and lactose and glucose or the like, which is also widely used for drugs and food, can be used as saccharide. At least one kind of sugar alcohol or saccharide is used.

- 5 As an active ingredient, followings are used, but other ingredients for oral administration can be also used.

<drug for central nervous system>

hypnotic, anxiolytic ... amobarbital, alprazolam, flurazepam hydrochloride, diazepam, and so on

- 10 antiepileptic ... sodium valproate, nitrazepam, phenytoin, and so on

NSAID / analgesic antipyretic agent ... aspirin, acetaminophen, ibuprofen, diclofenac sodium, ethenzamide, indometacin and so on

drug for Parkinson's disease ... levodopa, amantadine hydrochloride, trihexyphenidyl hydrochloride, piroheptine hydrochloride, and so on

- 15 psychoneurosis agent ... etizolam, amitriptyline hydrochloride, sulpiride, and so on

<drug for peripheral nervous system>

skeletal muscle relaxant ... chlorphenesin carbamate, chlormezanone, and so on

autonomic nervous agent ... valethamate bromide, tofisopam, and so on

antispasmodic ... afloqualone, and so on



<drug for circulatory organ>

cardiac ... ubidecarenon, aminophylline, etilefrine hydrochloride, and so  
on

antiarrhythmic agent ... atenolol, pindolol, and so on

5 diuretic ... spironolactone, trichlormethiazide, furosemide, and so on

antihypertensive agent ... todrazine hydrochloride, nicardipine  
hydrochloride, hydralazine hydrochloride, and so on

angiotonic ... dihydroergotamine mesilate and so on

vasodilator ... benidipine hydrochloride, diltiazem hydrochloride,

10 isosorbide dinitrate, and so on

hyperlipemia ... clofibrate, nicomol, and so on

others ... flunarizine hydrochloride, meclofenoxate hydrochloride,  
cinnarizine, and so on

<alimentary tract drug>

15 antidiarrheal drug ... loperamide hydrochloride, dimeticone, and so on

drug for peptic ulcer ... azulene, L- glutamine, aceglutamide aluminium,  
cetraxate hydrochloride, cimetidine, and so on

cholagogue ... anetholtrithion, chenodeoxycholic acid, and so on

others ... domperidone, trimebutine maleate, metoclopramide, cisapride

20 and so on

<metabolic drug>

vitamin ... alfacarbidol, tiamine hydrochloride, cobamide, vitaroxin  
riboflavin butyrate, ascorbic acid, phytonadione, and so on

diabetes mellitus agent ... glybuzole, tolbutamide, and so on

<antiallergics>



antihistamine ... homochlorcyclizine hydrochloride, clemastine fumarate,  
chlorpheniramine maleate, and so on

others ... oxatamide, ketotifen fumarate, azelastin hydrochloride, and so  
on

5 <antineoplastics>

antimetabolite ... fluorouracil, tegafur, and so on

<antibiotics>

paromomycin sulfate, amoxicillin, cefaclor, cefalexin, acetylspiramycin,  
minocycline hydrochloride, and so on

10

In the present invention, crosspovidone, crosscarmellose sodium, low  
substituted hydroxypropylcellulose or the like, which are widely used for  
drugs and food can be used as a disintegrant. At least one kind of  
disintegrant is used.

15

Next, a production method of a tablet according to the present  
invention will be described hereinafter.

The tablet of the present invention can be obtained by compressing and  
tableting after granulating a mixed powdered component comprising sugar  
20 alcohol or saccharide having an average particle diameter of not more than 30  
 $\mu$  m ground by means of a hammer mill or a jet mill or the like, an active  
ingredient, and a disintegrant. On the other hand, the tablet of the present  
invention also can be obtained by compressing and tableting after granulating a  
mixed powdered component comprising sugar alcohol or saccharide having an  
average particle diameter of not more than 30  $\mu$  m ground by means of a



hammer mill, a jet mill or the like, an active ingredient, and a disintegrant under the presence of an easily volatile disintegrating adjuvant and thereafter the disintegrant adjuvant is volatilized.

The amount of sugar alcohol or saccharide is preferably about 60 ~ 95%, more preferably about 80 ~ 95% per one tablet.

The amount of active ingredient is different depending on the kind and dosage amount of active ingredients, however, 0.01 ~ 30% is preferable, and more preferably 0.01 ~ 10% per one tablet.

The amount of disintegrant present is preferably about 1 ~ 30mg per dosage, and more preferably 1 ~ 10% per one tablet.

Easily volatile disintegrating adjuvant is such as sublimative camphor, urethane, urea, ammonium bicarbonate, benzoic acid, or the like, however, camphor is most preferable. The amount of easily volatile disintegrating adjuvant is preferably 1 ~ 20% and more preferably 1 ~ 10% per one tablet.

A wet granulation method using purified water, ethanol or the like can be preferably used. In the method, for example, granulation can be executed by means of a general granulator such as a fluid-bed granulator, a rotary stirring granulator or an extruding granulator. The granulated material is dried, and mixed with a lubricant, and thereafter compressed into predetermined shape. Binder, sour agent, foaming agent, sweetening agent, flavoring agent, or colorant can be added as additive. As a lubricant, such as magnesium stearate, stearic acid, stearyl alcohol, sucrose ester of fatty acid, talc, light anhydrous silicic acid, or like can be used. Binder is, for example, hydroxypropylcellulose, polyvinylpyrrolidone, hydroxypropylmethylcellulose,



partially saponificated polyvinyl alcohol methylcellulose, pullulan or the like.

Sour agent is citric acid, malic acid, adipic acid, ascorbic acid, or the like.

Foaming agent is sodium bicarbonate, sodium carbonate, calcium carbonate, or the like. Sweetening agent is Aspartame (TM), saccharin, glycyrrhizic acid

5 or the like. Flavoring agent is lemon, orange, pine, mint, menthol or the like. Colorant is yellow iron sesquioxide, red iron sesquioxide, tar color or the like. The amount of lubricant is preferably 0.01 ~ 1% and more preferably 0.01 ~ 0.5% per one tablet.

Although a method of compression is not limited in the present  
10 invention, a rotary tablet machine, a hydraulic press machine or a single punch tableting machine which have high productivity can be more preferably used. When an easily volatile disintegrating adjuvant is used, the tablet is dried by heating after compressing process. As to lubricants, they can be excluded from the powdered mixture in the granulation process, in that occasion it may  
15 be previously spread on the surfaces of punches and dies of a tableting machine before compression process. That makes the present invention more effective. Compression pressure of a rotary tablet machine may be preferably more than 300kg.

The shape of the tablet obtained in the present invention can be pills or  
20 other shapes such as a normal R surface tablet, a sugar coated R surface tablet, a tablet with square edges, a tablet with rounded edges, or a tablet with two R surfaces, or the like.

Further, the tablet may have a divisional line.

#### Best Mode for Carrying Out the Invention

The present invention will be concretely explained according to



examples and reference examples.

Reference Example 1

1890g of D-mannitol (Towa Kasei Co., Ltd. : average particle diameter of about 60  $\mu$  m) and 100g of crosspovidone (POLYPLASDONE XL-10 : GAF Co., Ltd.) were fed in a fluid-bed granulation dryer (Glatt Co., Ltd. : WSG-type 5), purified water was sprayed, then granulated material was obtained after granulation and drying processes. 10g of magnesium stearate was added and mixed with the granulated material, and they were compressed and tableted by a rotary tablet machine (Kikusui Seiko Co., Ltd., CLEAN PRESS COLLECT TYPE 12). Tableting conditions were as follows; tablet weight was 200mg, a metal mold was 8mm diameter flat-type, and compression pressure was varied such as 150kg, 300kg, 450kg, 600kg, and 800kg.

Example 1

D-mannitol (Towa Kasei Co., Ltd. : average particle diameter of about 60  $\mu$  m) was previously ground by a jet mill (Japan Pneumatic Co., Ltd.:type PJM-1-1.5) and the pulverized D-mannitol with average particle diameter of 20  $\mu$  m was obtained. 1890g of the pulverized D-mannitol and 100g of crosspovidone (POLYPLASDONE XL-10 : GAF Co., Ltd.) was fed in a fluid-bed granulation dryer (Glatt Co., Ltd. : WSG-type 5), purified water was sprayed, and granulated material was obtained after granulation and drying processes. 10g of magnesium stearate was added and mixed with the granulated material, and they were compressed and tableted by a rotary tablet machine (Kikusui Seiko Co., Ltd., CLEAN PRESS COLLECT TYPE 12). Tableting conditions were the same as the referenc example 1.



Reference Example 2

100g of domperidone, antiemetic agent, 1790g of lactose (DMV Co., Ltd. : average particle diameter of about 80  $\mu$  m) and 100g of crosspovidone (POLYPLASDONE XL-10 : GAF Co., Ltd.) were fed in a fluid-bed granulation dryer (Glatt Co., Ltd. : WSG-type 5), purified water was sprayed, and granulated material was obtained after granulation and drying processes. 10g of magnesium stearate was added and mixed with the granulated material, and they were compressed and tableted by a rotary tablet machine (Kikusui Seiko Co., Ltd., : CLEAN PRESS COLLECT type 12). Tableting conditions were the same as the reference example 1.

Example 2

Lactose (DMV Co., Ltd. : average particle diameter of about 80  $\mu$  m) was previously ground by a jet mill (Japan Pneumatic Co., Ltd. : type PJM-1-1.5) and the pulverized lactose having average particle diameter of 15  $\mu$  m was obtained. 1790g of the pulverized lactose, 100g of domperidone, and 100g of crosspovidone (POLYPLASDONE XL-10: GAF Co., Ltd.) were fed in a fluid-bed granulation dryer (Glatt Co., Ltd.: WSG-type 5), purified water was sprayed, and granulated material was obtained after granulation and drying processes. 10g of magnesium stearate was added and mixed with the granulated material, and they were compressed and tableted by a rotary tablet machine (Kikusui Seiko Co., Ltd., CLEAN PRESS COLLECT TYPE 12). Tableting conditions were the same as the reference example 1.

Example 3

The granulated material obtained in the example 1 was tableted under the condition that tablet weight was 200mg, compression pressure was 50kg/c



m<sup>3</sup>, and a little magnesium stearate was coated on a metal mold (8mm diameter flat-type) and dies of a hydraulic press machine (Riken Seiki Co., Ltd.: type P-1B)

#### Example 4

- 5 140g of the pulverized D-mannitol used in the example 1, 10g of domperidone, 10g of crosspovidone (POLYPLASDONE XL-10 : GAF Co., Ltd.) and 40g of camphor were mixed in a vinyl bag and tableted under the condition that tablet weight was 200mg, a metal mold diameter was 9mm, a single punch tableting machine (Okada Seiko Co., Ltd.: N-20E type both  
10 pressure powder tableting machine) was used, and compression pressure was 1500kg/cm<sup>2</sup>. The compressed tablet was dried for 10 minutes at 80 °C under vacuum condition in a vacuum dryer.

- Next, the hardness and disintegrating time of the tablet of the present  
15 invention will be described using an experimental example.

#### Experimental Example

- The hardness and the disintegrating time of the tablet obtained by the examples 1 and 2 and reference examples 1 and 2 were measured. The hardness of the tablet was measured by a tablet destructive strength  
20 measuring instrument (Toyama Sangyo Co., Ltd. : TH-203CP type) The disintegrating time of the tablet was measured in such a way that the tablet was placed on a No.10 wire cloth, water was dropped at a speed of 4ml/min. on the tablet, and the time till the tablet go through the wire cloth was measured. The time was determined as the disintegrating time.

The result is shown in a Table 1.



Table 1

| sample / compression pressure |                       | 150kg               | 300kg               | 450kg               | 600kg  | 800kg  |
|-------------------------------|-----------------------|---------------------|---------------------|---------------------|--------|--------|
| 5                             | comparison 1 hardness | hard to be tableted | hard to be tableted | hard to be tableted | 1.9kgf | 2.3kgf |
|                               | disintegration        | —                   | —                   | —                   | 20sec. | 22sec. |
|                               | embodiment 1 hardness | 1.9kgf              | 3.9kgf              | 5.1kgf              | 6.2kgf | 7.3kgf |
|                               | disintegration        | 10sec.              | 15sec.              | 16sec.              | 19sec. | 27sec. |
|                               | comparison 2 hardness | hard to be tableted | hard to be tableted | hard to be tableted | 1.5kgf | 2.1kgf |
|                               | disintegration        | —                   | —                   | —                   | 18sec. | 21sec. |
| 10                            | embodiment 2 hardness | 1.6kgf              | 4.0kgf              | 4.9kgf              | 5.8kgf | 6.5kgf |
|                               | disintegration        | 10sec.              | 16sec.              | 20sec.              | 25sec. | 29sec. |

In reference examples 1 and 2, tableting was hard till 450kg compression pressure and tableting was made possible at around 600kg.

15 However, the hardness of the tablet was not enough. In examples 1 and 2, enough tablet hardness could be obtained at more than 300kg compression pressure and the disintegrating time was very fast. When the tablet produced at 450kg compression pressure according to the example 1 was dosed, the tablet was disintegrated within 10 seconds in an oral cavity.

20 The tablets obtained by the examples 3 and 4 were also measured of its hardness and disintegrating time in the same way. The tablets obtained by the example 3 had enough hardness of about 6.5kgf and its disintegrating time was about 10 seconds. The hardness of the tablet of the example 4 was about 4kgf and its disintegrating time was about 2 seconds, which was very fast.



Industrial Applicability

According to the present invention, a tablet rapidly disintegrable in an oral cavity can be provided.



THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:

1. An intrabuccally rapidly disintegrating tablet, formed from compressed granules,  
said granules comprising  
in mixed powdered form:
  - 5 a medicative ingredient as active ingredient;  
a disintegrant; and  
a main ingredient selected from the group consisting of a sugar alcohol and/or a  
saccharide, each having an average particle size of less than 30 $\mu$ m in diameter.
2. An intrabuccally rapidly disintegrating tablet, formed from compressed granules,  
10 said granules comprising in mixed powdered form:  
a medicative ingredient as active ingredient;  
a disintegrant; and  
a main ingredient selected from the group consisting of a sugar alcohol and/or a  
saccharide, each pulverized into an average particle size of less than 30 $\mu$ m in diameter  
15 before the step of granulating said granules.
3. The intrabuccally rapidly disintegrating tablet as set forth in claim 1 or 2 , wherein  
said sugar alcohol is D-mannitol.
4. The intrabuccally rapidly disintegrating tablet as set forth in claim 1 or 2 wherein  
said saccharide is lactose.
- 20 5. The intrabuccally rapidly disintegrating tablet as set forth in any one of the  
preceding claims, wherein said disintegrant is one of: crosspovidone; cross  
carboxymethyl cellulose sodium and low substituted hydroxypropylcellulose.



6. The intrabuccally rapidly disintegrating tablet as set forth in any one of the preceding claims, wherein the tablet has a disintegrating speed in an oral cavity of within 1 minute.

7. The intrabuccally rapidly disintegrating tablet as set forth in any one of the preceding claims, wherein the tablet has a hardness of more than 4kgf and a disintegrating time of less than 30 seconds, in which hardness is defined as the value of the pressure measured by a tablet destructive strength measuring instrument in a tablet destructive examination and disintegrating time is defined as the value of time until the tablet placed on a No. 10 mesh wire cloth goes down through the mesh wire cloth under the condition that water is dropped onto the tablet placed on the mesh wire cloth at 4ml/minute dropping speed.

8. The intrabuccally rapidly disintegrating tablet as set forth in any one of the preceding claims, wherein said sugar alcohol or said saccharide is present in an amount of 60w/w% to 95w/w% of the tablet.

9. The intrabuccally rapidly disintegrating tablet as set forth in any one of the preceding claims, wherein said medicative ingredient is present in an amount of 0.01w/w% to 30w/w% of the tablet, said disintegrant is present in an amount of 1w/w% to 30w/w% of the tablet; and said sugar alcohol or said saccharide is present in an amount of 60w/w% to 95w/w% of the tablet.

10. A production method for an intrabuccally rapidly disintegrating tablet, comprising the steps of:

preparing mixed powdered components including a main ingredient selected from the group consisting of a sugar alcohol and/or a saccharide, each of which has an average



particle size of less than 30µm in diameter, a medicative ingredient as an active ingredients, and a disintegrant;  
producing granules granulating said mixed powdered components; and  
compressing said granules.

- 5 11. A production method for an intrabuccally rapidly disintegrating tablet, comprising the steps of:

pulverizing a main ingredient selected from the group consisting of a sugar alcohol and/or a saccharide, into an average particle size of less than 30µm in diameter;  
preparing mixed powdered components including said main ingredient pulverized into

- 10 an average particle size of less than 30µm in diameter, a medicative ingredient as an active ingredients, and a disintegrant;

producing granules granulating said mixed powdered components; and  
compressing said granules.

12. The production method for the intrabuccally rapidly disintegrating tablet as set  
15 forth in claim 10 or 11, further comprising the step of: externally spreading lubricant on both material contacting surfaces of punches and dies of a tableting machine before the step of compression.

13. The production method for the intrabuccally rapidly disintegrating tablet as set  
forth in any one of claims 10 to 12, wherein said disintegrant is one of: crosspovidone;  
20 cross carboxymethyl cellulose sodium; and low substituted hydroxypropylcellulose.

14. The production method for the intrabuccally rapidly disintegrating tablet as set  
forth in any one of claims 10 to 14 wherein said granules are compressed into the tablet



under the existence of a readily volatilizable disintegrating adjuvant and thereafter the disintegrant adjuvant is volatilized from the tablet.

15. The production method for an intrabuccally rapidly disintegrating tablet as set forth in claim 14, wherein said easily volatile disintegrating adjuvant is camphor.

5 16. The production method for an intrabuccally rapidly disintegrating tablet as set forth in any one of claims 10 to 15, wherein said granules are compressed under 800kgf in the step of compressing said granules.

17. A base material for an intrabuccally rapidly disintegrating tablet, comprising granules which are produced by granulating a mixture comprising:

10 a disintegrant; and

a main ingredient selected from the group consisting of a sugar alcohol and/or a saccharide, each having an average particle size of less than 30 $\mu$ m in diameter.

18. A base material for an intrabuccally rapidly disintegrating tablet, comprising granules which are produced by granulating a mixture comprising:

15 a disintegrant; and

a main ingredient selected from the group consisting of a sugar alcohol and/or a saccharide, each pulverized into an average particle size of less than 30 $\mu$ m in diameter before granulating said granules.

19. The base material for the intrabuccally rapidly disintegrating tablet as set forth in

20 claim 17 or 18, wherein said sugar alcohol is D-mannitol.

20. The base material for the intrabuccally rapidly disintegrating tablet as set forth in any one of claims 17 to 19, wherein said saccharide is lactose.



21. The base material for the intrabuccally rapidly disintegrating tablet as set forth in any one of claims 17 to 20, wherein said disintegrant is one of: crosspovidone; cross carboxymethyl cellulose sodium ; and low substituted hydroxypropylcellulose.

22. The base material for the intrabuccally rapidly disintegrating tablet as set forth in  
5 any one of claims 17 to 21, wherein the tablet compressed the granules granulated the mixed powdered components comprising the base material has a disintegrating speed in an oral cavity within 1 minute.

23. The base material for the intrabuccally rapidly disintegrating tablet as set forth in any one of claims 17 to 22, wherein the tablet compressed the granules granulated the  
10 mixed powdered components comprising the base material has a hardness of more than 4kgf and a disintegrating time of less than 30 seconds, in which hardness is defined as the value of the pressure measured by a tablet destructive strength measuring instrument in a tablet destructive examination and disintegrating time is defined as the value of time until the tablet placed on a No. 10 mesh wire cloth goes down through the mesh wire  
15 cloth under the condition that water is dropped onto the tablet placed on the mesh wire cloth at 4ml/minute dropping speed.

24. The base material for the intrabuccally rapidly disintegrating tablet as set forth in any one of claims 17 to 23, wherein said sugar alcohol or said saccharide is present in an amount of 60 w/w% to 95 w/w% of the tablet.

20 25. The base material for the intrabuccally rapidly disintegrating tablet as set forth in any one of claims 17 to 24, further comprising a medicative ingredient and said medicative ingredient is present in an amount of 0.01w/w% to 30w/w% of the tablet, said



disintegrant is present in an amount of 1w/w% to 30w/w% of the tablet and said sugar alcohol or said saccharide is present in an amount of 60w/w% to 95w/w% of the tablet.

26. An intrabuccally rapidly disintegrating tablet substantially as herein described with reference to any one of the examples, excluding comparative examples.

5 27. A production method for an intrabuccally rapidly disintegrating tablet substantially as herein described with reference to any one of the examples, excluding comparative examples.

28. A base material for an intrabuccally rapidly disintegrating tablet substantially as herein described with reference to any one of the examples, excluding comparative  
10 examples.

DATED this 13th Day of February 2001

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