

Disintegration capacity of model mumiyo pills benchmarked against disintegration of other pharmaceutical manufacturer drugs.

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Abstract. This article presents a benchmark research for model mumiyo pills against other pharmaceutical manufacturer drugs. Disintegration test was carried out for samples.

Keywords: mumiyo, disintegration test.

New pharmaceutical products development is a multistage, complicated and responsible process that requires a whole complex of tests and biopharmaceutical researches. One of the most important phase of solids construction (supplements as well) is an optimization of ingredients that provide the best disintegration and dissolubility characteristics. Study biologically active substance of mumiyo is water-soluble. That's why disintegration of solid drugs with this substance as an active component is a limiting factor which determines bioavailability in body.

There were selected 100% mumiyo pills weighing 0.2 g, tablet diameter 8 mm, of following pharmaceutical manufacturers:

- Mumiyo cleaned LLC "Biovit"
- "Golden Mumiyo of Altai" CJSC "Evalar"
- Mumiyo of Altai "Balm of Mountains" LLC "Pharmprodukt"
- Mumiyo "Farm Group" LLC

During the experiment a comparative study on the dissolution test was conducted with the model mumiyo pills composition. The disintegration test was carried out in accordance with the requirements of EP 8.0 on the ERWEKA ZT 220 disintegration tester. The composition of the mumiyo model tablets is presented in the table (Table 1).

Table 1. Model mumiyo pill composition

| Ingredients | Unit dose, g |
|-------------|--------------|
|-------------|--------------|

|                                |        |
|--------------------------------|--------|
| Mumiyo                         | 0,2    |
| Poly vinyl pyrrolidone K-30    | 1-9%   |
| Polyplasdone XL-10             | 1-6%   |
| Microcrystalline cellulose 102 | 40-55% |
| Magnesium stearate             | 0,1-1% |
|                                | 0,5    |

The results are presented in the table (Table 2).

Table 2. Disintegration time of mumiyo tablets of various manufacturers

| Manufacturer  | Average disintegration time, min |
|---|----------------------------------|
| Mumiyo cleaned LLC "Biovit"                               | 5,3±0,15                         |
| "Golden Mumiyo of Altai" CJSC "Evalar"                    | 4,15±0,1                         |
| Mumiyo of Altai "Balm of Mountains" LLC<br>"Pharmprodukt" | 9,12±0,15                        |
| Mumiyo "Farm Group" LLC                                   | 7,6±0,14                         |
| Model mumiyo pill   | 2,05±0,1                         |

Based on the data presented in the table (Table 2), we can draw the following conclusions:

- The model mumiyo composition has a shorter disintegration time compared to tablets from other manufacturers;
- As a result, the model composition of mumiyo tablets can be attributed to the rapid group of tablets with a fast disintegration.