

STUDIES ON MAIN CHARACTERISTICS OF PREPARATION “SULFMONZOL 5%”

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ABSTRACT

Laboratory studies on main characteristics of a new Mongolian preparation Sulfmonzol 5%, which was developed by using albendazole sulfoxide as biologically active principle, demonstrated that length of storage and stability of the drug meet standards of other similar drugs.

KEYWORDS: Albendazole sulfoxide, activity, stability

INTRODUCTION

Preparation “Sulfmonzol 5%” contains 5% biologically active matter called albendazole sulfoxide with specific effects against helminthes in animals, and it also includes such solvents as distilled water, op-10, tween-80 and food glue.

Because albendazole sulfoxide as main active principle contains sulfoxide group as compared to albendazole alone, both action spectrum and effect are greater.

One of the essential characteristics of pharmaceuticals is their stability. Storage conditions and length, other valuable characteristics, as well as therapeutic effects and validity depend on stability of a drug.

Therefore, it is necessary to test parameters of stability of biologically active matters and preparation as end product, when novel drugs are obtained.

MATERIALS AND METHODS

To perform the study, 3 different batches of the preparation, which uses albendazole sulfoxide as biologically active matter, were selected in order to determine the expiration period of the drug, while only batch of each drugs containing albendazole sulfoxide as biologically active matter was selected to determine stability of the drug.

Expiration period of newly obtained anthelmintic drug “Sulfmonzol 5%” is inseparably associated with stability of drug and depends directly on content of albendazole sulfoxide as a biologically active principle. In order to determine the storage length of the preparation, 3 different conditions of storage temperatures were used at 6 months interval within 2 years and

contents of albendazole sulfoxide in anthelmintic drug “Sulfmonzol 5%” were measured by spectrophotometry.

As well, testing of stability of the drug with main characteristics, including physical appearance, odor, gravimetric density, pH, and content of albendazole sulfoxide was done under 3 different temperature conditions at 6 months intervals within 2 years, while albendazole sulfoxide in anthelmintic drug “Sulfmonzol 5%” was measured by spectrophotometry, physical appearance and odor were determined by organoleptic methods and gravimetric density by aerometry.

RESULTS OF THE STUDY

Storage length of the preparation: Results of the experiment for tracing qualitative changes of activity of the drug "Sulfmonzol 5%" during

storage at 5-7°C, 10-15°C and 20-25 °C temperatures for up to 2 years are shown in the following table.

Table 1

Characteristics	Stabilization of Sulfmonzol 5% under storage conditions at ambient temperatures (from 5°C to 25°C)					
	After 6 months storage			After 12 months storage		
	5-7°C	10-15°C	20-25°C	5-7°C	10-15°C	20-25°C
Physical appearance	Suitable	Suitable	Suitable	Suitable	Suitable	Suitable
Odor	Suitable	Suitable	Suitable	Suitable	Suitable	Suitable
Gravimetric density at 20°C	1.023 g/cm ³	1.024 g/cm ³	1.024 g/cm ³	1.024r/c g/cm ³	1.024r/c g/cm ³	1.024r/c g/cm ³
pH 1:100	6.1	5.9	6.0	6.1	5.9	6.0
Content of albendazole sulfoxide	5.01%	5.02%	5.02%	5.01%	5.02%	5.02%
Characteristics	After 18 months storage			After 24 months storage		
	5-7°C	10-15°C	20-25°C	5-7°C	10-15°C	20-25°C
	Physical appearance	Suitable	Suitable	Suitable	Suitable	Suitable
Odor	Suitable	Suitable	Suitable	Suitable	Suitable	Suitable
Gravimetric density at 20°C	1.024 g/cm ³	1.024 g/cm ³	1.024 g/cm ³	1.024 g/cm ³	1.025 g/cm ³	1.024 g/cm ³
pH 1:100	6.1	5.9	6.0	6.1	5.9	6.0
Content of albendazole sulfoxide	5.01%	5.02%	5.02%	5.01%	5.02%	5.02%

Stability of the preparation: Results of the experiment on testing of stability of therapeutic values of anthelmintic drug Sulfmonzol 5% were shown in above table.

The table shows main characteristics of anthelmintic drug Sulfmonzol 5% remain unchanged in terms of compositions within 2 years. In other words, it is revealed that storage of anthelmintic drug Sulfmonzol 5% under room condition protected from direct sunlight results in

higher stability of compositions and physical appearances.

Thus it is clear that storage of anthelmintic drug Sulfmonzol 5% under suitable conditions for not less than 2 years prevents loss of therapeutic effects. It is an evidence that anthelmintic drug Sulfmonzol 5% can be used in veterinary medical practice after not less than 2 years storage.

CONCLUSIONS

1. Storage of newly developed anthelmintic drug Sulfmonzol 5% under the conditions protected from direct sunlight for not less than 2 years results in remaining biologically active matter albendazole sulfoxide not degraded and unchanged.
2. Main characteristics of anthelmintic drug Sulfmonzol 5% remain unchanged in terms of compositions under room condition protected from direct sunlight for not less than 2 years.
3. Above mentioned characteristics of anthelmintic drug Sulfmonzol 5% are in agreement with those results obtained by overseas authors and the preparation can be used in veterinary medical practices after not less than 2 years storage because its compositions and physical appearances are highly stable.

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