

CONTROL OF THE PRODUCTION OF THE TOTAL IRIDOIDS

FROM *Ajuga turkestanica*

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The isolation from the epigeal part of *Ajuga turkestanica* of the total iridoids (harpagide and harpagide 8-acetate) [1], which possess cholagogic activity, has been reported previously [2]. For the correct performance of the industrial process and to ensure the normal yield of product, reliable control of production is necessary.

TABLE 1. Dynamics of the Extraction of the Total Iridoids from the Plant Raw Material

Material analyzed	Amount of total iridoids, %	
	on the weight of the raw material	on the total amount of iridoids in the raw material
Raw material	5.64	100.00
Extraction 1	3.39	60.15
2	0.87	15.34
3	0.57	10.11
4	0.25	4.48
5	0.13	2.25
6	0.06	1.00
		93.33

TABLE 2. Quantitative Indices of the Control of the Production of the Total Iridoids over the Stages of the Industrial Process

Material analyzed	Amount of total iridoids	
	on the weight of the raw material	on the total amount of iridoids in the raw material
Initial raw material	5.64	100
Total extraction	5.27	93.33
Meal	0.29	5.15
Chloroform extract	0.36	6.32
Butanol extract	4.52	78.35
Aqueous mother liquor	0.40	7.04
Chloroform-methanol eluate	3.84	68.00
Spent sorbent	0.47	8.30
Total iridoids after drying	3.59	63.60
Unaccounted losses		9.59

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In agreement with the technology described in [1], the total iridoids in extracts are determined at all stages of purification and in the meal and the mother liquor. A method for the quantitative determination of the total iridoids in the raw material [1] is used that presupposes the preliminary separation of the extractive substances, followed by the photolorimetric determination of the products of a color reaction. Depending on the concentration of iridoids in the sample being analyzed, in each case the amount of solution deposited on the plate is selected in such a way that the concentration of desired substances is within the range of sensitivity of the method.

We have studied the dynamics of the extraction of the total iridoids with 80% ethyl alcohol from the epigeal part of *Ajuga turkestanica*, containing 5.64% of iridoids. In each case we determined the amount of iridoids (Table 1). The total amount of iridoids isolated in six extractions was 93.33% of the amount in the raw material.

The results of the determination of the total iridoids over the stages of the industrial process are given in Table 2. The yield of finished product in the production process was 63.60%, and the unaccounted losses 9.59% (Table 2).

The method permits the reliable analysis of the plant raw material, of the production intermediates, and on the finished product.

REFERENCES

1. V. Mnatsakanyan, Iridoid Glycosides [in Russian], Erevan (1986), p. 43.
2. L. D. Kotenko, M. R. Yakubova, A. U. Mamatkhanov, Z. Saatov, and M. T. Turakhozhaev, Khim. Prir. Soedin., 685 (1993).