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The study of some properties of papain and bromelain containing gels

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Enzymes as drugs are used for the treatment of many diseases. Nowadays, the number of enzyme containing preparations is not so great. This is due to several reasons: lack of resources, high price, immunogenic problems and low stability. The present work describes development of new drug forms - gels, containing bromelain and papain as well initial studies of standardization of the fruit bromelain and stem bromelain from the pineapple (*Ananas comosus* L.) and the comparative characterization of their physical-chemical properties. Particularly, influences of concentrations of cystein and casein on the speed of hydrolyze, dependence of casein lysis on concentration of bromelain, optimal parameters of pH and temperature were studied. The bases for the gels, which determine the optimal resorption and stability of the biological active compounds were selected (Table 1 and table 2).

Table 1: Proteolytic activity of bromelain containing gels

#	Proteolytic activity PE/g					
	0	90day	120 day	150 day	240 day	360 day
Gel 1	256,3	208,4	198,5	140,4	126,7	116,6
Gel2	359,4	348,4	329,5	308,6	289,3	275,6
Gel2-	323,6	322,5	318,1	305,9	292,3	276,7

Table 2: Proteolytic activity of papain containing gels

#	Proteolytic activity PE/g					
	0	90 day	120 day	150 day	240 day	360 day
PEO-Papain I Gel	395,8	408,4	398,5	390,4	396,7	389,5
PEO-Papain II Gel	283,4	278,4	279,5	278,6	282,3	283,6
PEO-Papain III Gel	282,3	293,5	278,1	301,9	295,3	287,7
MC-Papain V Gel	302,3	295,4	292,9	275,2	263,7	256,4
MC-Papain II Gel	248,1	243,6	238,4	231,3	218,1	201,5

Biography

N Gorgaslidze has completed her PhD from Saint-Petersburg State Chemical-Pharmaceutical Academy. She is the Director of TSMU I.Kutateladze Institute of Pharmacochemistry and Professor at the Department of Social and Clinical Pharmacy at Tbilisi State Medical University. She has published more than 80 papers in reputed journals.

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