

THE MINISTRY OF HEALTH OF THE RUSSIAN FEDERATION  
STATE BUDGETARY EDUCATIONAL INSTITUTION OF HIGH  
PROFESSIONAL EDUCATION

**IZHEVSK STATE MEDICAL ACADEMY**

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**“I confirm”**

**Rector of SBEI HPE ISMA**

**Of Ministry of Health of Russia**

**Professor Strelkov N. S.**

Report on scientific-experimental work “Influence of bioresonance impact exercised by the devices BIOMEDIS and BIOMEDIS-M on lifetime reactions of human cells” conducted at the Department of Histology, Embryology and Cytology of SBEI HPE ISMA of the Ministry of Health of Russia.

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## **Report**

**on conducted scientific work “Influence of bioresonance impact  
exercised by the devices BIOMEDIS and BIOMEDIS-M on lifetime  
reactions of human cells”**

Izhevsk 2014

## Content

1. General considerations
2. Materials and methods of research
3. Results
4. Discussion of results
5. Conclusions
6. Sources of information
7. Conclusion on report

### **Influence of bioresonance impact exercised by the devices BIOMEDIS and BIOMEDIS-M on lifetime reactions of human cells**

#### 1. General considerations

Research on human cells and sign-variable electric field allows determining their reactions to different factors (A. A. Soloviev, 2011).

Presence of electric charge in molecules and macromolecular complexes makes a cell a complicated electric scheme. Many structures of cell have ability either to create oscillating waves or respond resonantly to external electromagnetic impacts. This ability changes during lifetime of cell. Pathological processes can change bioelectric parameters of cell specifically. That's why there is a possibility to develop algorithms of correction of cell's parameters in view of deviation's specific.

Analysis of deviations in human body and algorithms of their correction have been successfully developed with the help of creation of the portative devices

Deta-Ritm and Deta-AP. Many years of research and clinical trials have provided success.

The purpose of the work has been following: evaluation of effectiveness of developed methods of electromagnetic stimulation, considering reactions of human cells.

This problem has been solved with the help of an original method through usage of microelectrophoresis (MEP) (Soloviev A. A., etc. 2001).

The method has been introduced into practical health care (G. I. Cozinets, 1998, T. L. Redinova, N. P. Dmitracova, A. S. Yapeev, A. A. Soloviev, etc., 2004, F. C. Tetelyutina, S. N. Styajkina, N. A. Rebro, 2008, Soloviev A. A., etc. 2005).

The basis of the method related to usage of living cells' capacities is support of charge (S. S. Haramonenco, A. A. Rakityanskaya, 1979). The charge changes, when functional states of cells and body vary (S. A. Gonyan, 1992); the charge also reflects age-specific features of the body (V. G. Shachbazov, G. V. Colupaeva, 1987). The charge of cell reduces essentially in case of endotoxycosis (A. A. Soloviev, etc., 2005), and increases in case of malignant tumors (S. S. Haramonenco, A. A. Ralityanskaya, 1978).

Our work has contained the following tasks:

- to determine effectiveness of the used methods with the help of the device Biomedis and Biomedis-M, considering reactions of living cells;
- to determine level of offered methods' specific while influencing on various types of cells.

## 2. Materials and methods of research

Blood of 16 patients of various ages and sex, having acute pneumonia, has been studied. The following programs of the devices Biomedis have been utilized during the examination of the blood: "Erythrocytes", "Leukocytes", and "Deep cleaning". Bioplates with bronchi carcinomas have been studied in 14 patients with malignant tumors. Bioplates have been processed for further microelectrophoresis (MEP) with the help of the original method. The following treating programs of the devices have been used: "Cancer", and "Cancerogenic factor".

Blood cells and bioplates have been studied with the help of scientific complex "Cyto-Expert". Reactions of cells and video-programs have been analyzed by license computer programs NTC. Visual study of blood cells and bioplates has been conducted with the help of vital dyes.

## 3. Results

### Erythrocytes

Before usage of stimulation in intact blood of patients with pneumonia average rates of erythrocytes' activation were  $48 \pm 2,1\%$ , amplitude was  $2,7 \pm 0,3\mu\text{m}$ .

Because of usage of the program "Erythrocytes" the rates have become following:  $75,2 \pm 2,4\%$ ,  $4,2 \pm 0,4 \mu\text{m}$ .

Because of usage of the program "Deep cleaning" the rates have become following:  $63,8 \pm 3,2\%$ ,  $3,8 \pm 0,6 \mu\text{m}$ .

**Science and Technology Institution**

**“Engineering Center”**

**COMPLEX “CYTO-EXPERT”**

**REPORT ON RESULTS OF PROCESSING OF VIDEO RECORDING OF  
SIGN-VARIABLE MICROELECTROPHORESIS**

**File: E:\...\report-Aggregated data.sum=ERYTHROCYTES**

**AFTER ACTIVATION WITH THE HELP OF DEVICE BIOMEDIS-M**

**Program version: 1.4**

**Report version: 2**

**Electronic report: E:\...\User\Desktop\reports\Aggregated.**

**Creation date: 12.01.14**

**Part 1. Processing options**

Pixel size: 0,500  $\mu\text{m}$

Radius of objects: 5pixels

First snapshot of processing: 0

Last snapshot of processing: 130

Processed through snapshots: 1

## **Part 2. Estimated statistical parameters of sampling of objects' oscillating amplitudes**

Total amount of objects: 2043

Adhering objects of total amount: 43 (2,10%)

Objects with torsion of total amount: 0 (0,00%)

Objects with rupture of total amount: 131 (64,22%)

Objects which are suitable for processing: 688

Number of unmoving objects of those suitable for processing: 115

Percent of unmoving objects: 16,72%

Average amplitude of oscillations: 5,68  $\mu\text{m}$

Average deviation of amplitudes: 1,03  $\mu\text{m}$

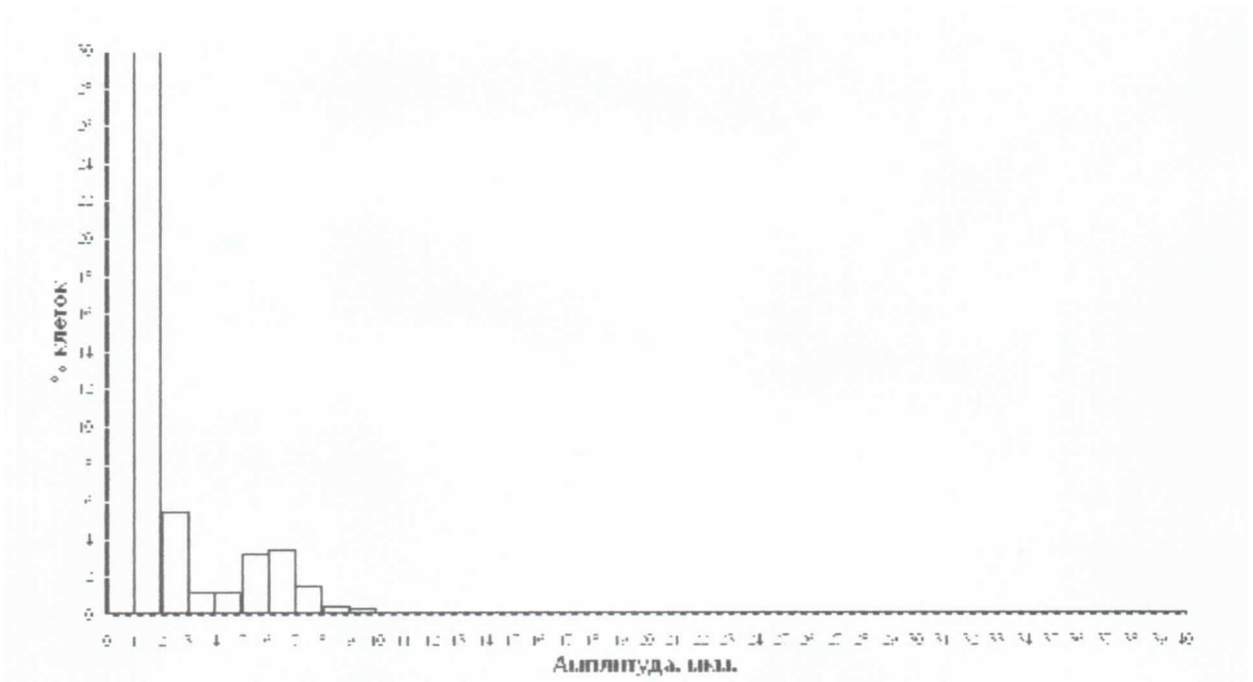
Asymmetry: 1,87

Outrage: 5,94

Average amount of fluid flow: 1,50  $\mu\text{m}$

Average deviation of fluid flow: 1,75  $\mu\text{m}$

## **Part 3. Graphics**



Amplitude,  $\mu\text{m}$

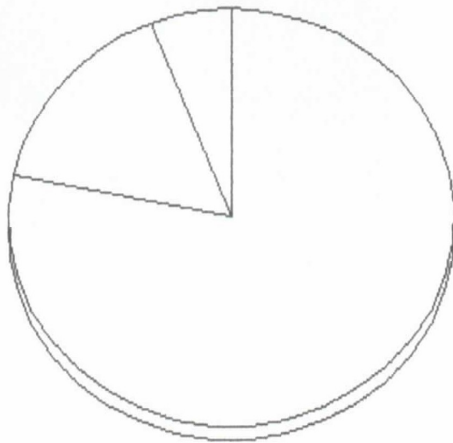
Picture 1. Histogram of distribution of oscillations' amplitudes of erythrocytes





Amplitude,  $\mu\text{m}$

Picture 2. Histogram of flow's distribution



0 rolling

43 adhering

115 unmoving

573 moving

Picture 3. Diagram of relations: moving/unmoving

Table 1. Found objects

Number of object	Status	Amplitude	Flow	Sign
1	Moving	1,346	0,250	+
2	Moving	1,521	0,750	+

3	Moving	4,743	1,000	+
4	Moving	5,350	3,482	+
5	Moving	5,836	0,559	+
6	Moving	0,791	0,354	+
7	Moving	4,257	1,768	+
8	Moving	6,973	1,061	+
9	Moving	0,750	0,250	-
10	Moving	8,310	1,601	+
11	Moving	11,385	2,850	+
12	Moving	7,458	1,458	+
13	Moving	0,707	0,000	+
14	Moving	6,083	1,000	+
15	Moving	6,865	1,904	+
16	Moving	1,803	0,500	-
17	Moving	4,507	0,250	+
18	Moving	6,129	3,010	+
19	Moving	1,414	0,707	+
20	Moving	2,062	1,581	+
21	Moving	4,562	1,521	+
22	Moving	5,062	1,275	+
23	Moving	0,250	0,250	-

24	Moving	1,677	0,559	+
25	Moving	1,118	0,000	+
26	Moving	2,264	0,354	+
27	Moving	0,707	0,000	+
28	Moving	4,316	1,275	+
29	Moving	4,191	1,031	+
30	Moving	6,708	1,414	+
31	Moving	0,354	0,354	+
32	Moving	6,427	1,250	+
33	Moving	1,820	0,250	+
34	Moving	9,839	1,820	+
35	Moving	12,652	2,610	+
36	Moving	4,650	0,354	+
37	Moving	6,270	1,250	+
38	Moving	8,860	2,062	+
39	Moving	2,062	0,000	+
40	Moving	3,400	1,820	+
41	Moving	6,010	1,458	+
42	Moving	2,500	1,118	+
43	Moving	2,500	0,000	+
44	Moving	2,610	0,250	+

45	Moving	6,325	1,000	+
46	Moving	2,795	0,901	+
47	Moving	3,363	3,052	+
48	Moving	9,569	1,521	+
49	Moving	1,601	0,250	+
50	Moving	2,372	1,061	+
51	Moving	2,305	0,250	+
52	Moving	5,099	0,707	+
53	Moving	0,707	0,000	+
54	Moving	2,850	2,151	+
55	Moving	6,490	1,904	+
56	Moving	5,460	2,016	+
57	Moving	8,062	1,118	+
58	Moving	1,000	0,000	+
59	Moving	5,799	1,904	+
60	Moving	4,423	4,776	+
61	Moving	3,335	0,354	+
62	Moving	4,316	0,354	+
63	Moving	5,062	1,275	+
64	Moving	4,610	0,707	+
65	Moving	5,006	1,953	+

66	Moving	1,346	0,250	+
67	Moving	8,867	1,275	+
68	Moving	4,472	1,118	+
69	Moving	4,031	0,500	+
70	Moving	7,058	1,521	+
71	Moving	0,707	0,000	+
72	Moving	4,070	0,559	+
73	Moving	2,305	0,901	+
74	Moving	2,704	0,559	+
75	Moving	3,691	0,791	+
76	Moving	4,272	1,414	+
77	Moving	0,901	0,250	+
78	Moving	0,500	0,000	-
79	Moving	8,835	1,953	+
80	Moving	1,521	0,559	+
81	Moving	3,881	1,521	+
82	Moving	2,693	1,118	+
83	Moving	2,462	1,031	+
84	Moving	5,460	0,901	+
85	Moving	4,138	1,275	+
86	Moving	7,289	2,151	+

87	Moving	3,808	0,707	+
88	Moving	3,400	0,559	+
89	Moving	4,430	1,458	+
90	Moving	1,000	0,000	+
91	Moving	4,472	1,414	+
92	Moving	5,385	0,500	+
93	Moving	1,250	0,559	+
94	Moving	3,824	0,791	+
95	Moving	5,062	0,791	+
96	Moving	2,761	0,791	+
97	Moving	2,926	1,250	+
98	Moving	0,707	0,000	-
99	Moving	1,677	0,559	+
100	Moving	6,643	0,354	+
101	Moving	3,162	0,500	+
102	Moving	0,791	0,791	+
103	Moving	6,250	1,750	+
104	Moving	12,540	1,118	+
105	Moving	2,610	0,559	+
106	Moving	1,118	0,000	+
107	Moving	1,250	0,250	+

108	Moving	2,693	1,118	+
109	Moving	0,707	0,000	+
110	Moving	0,791	0,354	+
111	Moving	4,272	1,581	+
112	Moving	2,704	0,559	+
113	Moving	3,824	1,458	+
114	Moving	6,824	1,031	+
115	Moving	1,500	0,000	-
116	Moving	0,901	0,250	-
117	Moving	0,559	0,250	+
118	Moving	3,750	1,346	+
119	Moving	2,305	0,559	+
120	Moving	1,768	1,061	+
121	Moving	4,507	0,901	+
122	Moving	0,354	0,354	+
123	Moving	16,165	2,926	+
124	Moving	0,559	0,250	+
125	Moving	9,618	1,000	+
126	Moving	0,901	0,250	+
127	Moving	0,354	0,354	+
128	Moving	0,707	0,500	+

129	Moving	0,707	1,414	+
130	Moving	1,601	0,250	+
131	Moving	2,795	0,250	+
132	Moving	4,931	2,462	+
133	Moving	4,123	0,707	+
134	Moving	3,816	0,559	+
135	Moving	7,632	1,414	+
136	Moving	1,458	1,275	+
137	Moving	2,500	0,500	+
138	Moving	0,559	0,250	+
139	Moving	1,458	0,791	+
140	Moving	5,202	0,559	+
141	Moving	9,169	1,250	+
142	Moving	2,305	0,250	+
143	Moving	4,697	0,559	+
144	Moving	2,693	0,707	+
145	Moving	2,305	1,521	+
146	Moving	9,915	1,346	+
147	Moving	5,154	0,559	+
148	Moving	4,472	1,000	+
149	Moving	0,500	0,000	+



150	Moving	1,061	0,791	+
151	Moving	13,250	2,305	+
152	Moving	3,354	1,000	+
153	Moving	0,559	0,250	-
154	Moving	1,000	1,000	+
155	Moving	2,358	0,250	+
156	Moving	1,953	0,250	+
157	Moving	2,658	0,559	+
158	Moving	11,557	1,601	+
159	Moving	1,768	0,791	+
160	Moving	2,136	0,901	+
161	Moving	4,451	0,559	+
162	Moving	5,836	0,250	+
163	Adhering	2,062	0,000	+
164	Adhering	1,275	0,354	+
165	Adhering	1,346	0,250	+
166	Adhering	3,824	0,354	+
167	Adhering	2,062	0,000	+
168	Adhering	3,400	0,750	+
169	Moving	7,649	1,118	+
170	Moving	4,031	1,803	+

171	Moving	4,316	1,904	+
172	Adhering	0,559	0,250	+
173	Moving	3,824	1,061	+
174	Moving	3,758	1,275	+
175	Moving	6,951	1,953	+
176	Moving	4,507	1,521	+
177	Moving	4,610	1,581	+
178	Adhering	1,118	0,500	+
179	Moving	3,640	2,693	+
180	Moving	4,507	1,677	+
181	Adhering	1,275	0,791	+
182	Moving	4,008	1,250	+
183	Adhering	1,118	0,000	+
184	Adhering	3,536	1,000	+
185	Moving	3,808	1,118	+
186	Moving	4,070	1,521	+
187	Adhering	1,820	0,559	+
188	Moving	4,279	1,346	+
189	Adhering	0,250	0,559	+
190	Moving	4,562	1,677	+
191	Moving	4,279	1,820	+

192	Moving	4,257	1,458	+
193	Moving	2,062	1,118	+
194	Moving	4,008	2,136	+
195	Moving	4,000	1,581	+
196	Adhering	3,717	0,559	+
197	Adhering	2,016	0,250	+
198	Moving	3,000	1,118	+
199	Adhering	2,512	0,559	+
200	Adhering	4,528	1,000	+
201	Moving	4,008	1,677	+
202	Moving	5,256	2,151	+
203	Moving	3,758	1,458	+
204	Moving	4,008	1,677	+
205	Moving	3,536	1,118	+
206	Moving	4,766	1,250	+
207	Moving	4,008	1,677	+
208	Moving	3,509	1,250	+
209	Moving	3,824	1,458	+
210	Moving	4,562	1,521	+
211	Adhering	0,354	0,354	+
212	Moving	4,123	1,581	+

213	Moving	3,579	1,031	+
214	Moving	3,750	1,601	+
215	Moving	3,783	2,305	+
216	Moving	4,507	2,136	+
217	Moving	8,246	6,185	+
218	Moving	3,536	1,500	+
219	Moving	4,000	1,118	+
220	Moving	5,006	1,677	+
221	Adhering	4,250	0,559	+
222	Moving	4,366	1,820	+
223	Moving	2,358	1,601	+
224	Moving	4,008	1,250	-
225	Adhering	0,500	0,000	+
226	Moving	3,783	1,346	+
227	Moving	5,250	1,346	+
228	Adhering	0,559	0,250	+
229	Moving	3,758	1,768	+
230	Moving	3,500	1,414	+
231	Moving	4,031	1,118	+
232	Moving	4,507	1,677	+
233	Moving	4,500	1,581	+

234	Moving	4,000	1,118	+
245	Moving	4,031	1,581	+
236	Moving	4,008	4,191	+
237	Moving	4,008	1,250	+
238	Moving	3,000	1,581	+
239	Moving	2,016	1,250	+
240	Adhering	0,707	0,000	+
241	Moving	4,507	1,677	+
242	Adhering	1,118	0,000	+
243	Moving	4,528	1,803	+
244	Adhering	0,901	0,559	+
245	Moving	3,260	1,458	+
246	Moving	3,536	1,581	+
247	Moving	4,279	1,250	+
248	Adhering	0,707	0,000	+
249	Moving	4,008	1,677	+
250	Adhering	0,791	0,354	+
251	Moving	3,783	1,346	+
252	Adhering	1,061	0,354	+
253	Moving	4,008	1,521	+
254	Moving	3,758	2,264	+

255	Moving	2,512	1,031	+
256	Moving	3,750	1,820	+
257	Moving	3,579	1,677	+
258	Moving	3,750	2,610	+
259	Moving	4,000	1,581	+
260	Adhering	1,118	0,000	+
261	Moving	4,507	1,521	+
262	Moving	3,758	1,768	+
263	Moving	5,006	2,358	+
264	Moving	3,758	1,458	+
265	Moving	4,070	2,305	+
266	Moving	4,316	1,458	+
267	Adhering	3,783	0,750	+
268	Moving	4,507	2,136	+
269	Moving	4,776	1,820	+
270	Adhering	1,904	0,354	+
271	Moving	4,257	2,850	+
272	Moving	4,008	1,250	+
273	Moving	4,000	1,118	+
274	Moving	4,336	1,820	+
275	Moving	4,528	1,803	+

276	Adhering	0,750	0,250	+
277	Adhering	3,288	0,750	+
278	Moving	4,279	1,820	+
279	Moving	3,509	1,677	+
280	Moving	3,640	1,414	+
281	Moving	2,761	2,372	+
282	Moving	3,783	1,346	+
283	Moving	4,507	1,521	+
284	Moving	4,000	1,118	+
285	Adhering	0,750	0,250	+
286	Moving	4.031	1,118	+
287	Moving	3,758	1,458	+
288	Moving	3,783	1,346	+
289	Moving	3,881	1,820	+
290	Moving	4,528	1,414	+
291	Moving	5,256	1,904	+
292	Moving	4,528	1,581	+
293	Moving	6,718	2,151	+
294	Moving	5,256	1,904	+
295	Moving	4,031	1,581	+
296	Moving	4,138	3,889	+

297	Moving	4,500	1,803	+
298	Moving	4,279	1,346	+
299	Moving	3,536	1,118	+
300	Moving	4,528	1,581	+
301	Moving	4,562	1,677	+
302	Moving	3,758	1,061	+
303	Moving	3,783	1,250	+
304	Moving	3,010	1,250	+
305	Adhering	1,521	0,250	+
306	Moving	3,758	1,458	+
307	Moving	3,881	1,346	+
308	Moving	4,031	1,118	+
309	Adhering	1,000	0,500	+
310	Adhering	3,509	0,901	+
311	Moving	4,279	1,601	+
312	Adhering	1,000	0,500	+
313	Moving	4,500	2,121	+
314	Adhering	3,881	0,750	+
315	Moving	4,008	1,677	+
316	Moving	3,750	1,601	+
317	Moving	4,070	1,953	+



318	Moving	4,757	1,275	+
319	Moving	4,031	1,500	+
320	Moving	3,536	1,118	+
321	Moving	4,507	1,250	+
322	Moving	3,783	1,250	+
323	Moving	5,000	2,062	+
324	Moving	4,279	2,016	+
325	Moving	4,528	1,414	+
326	Moving	4,528	1,581	+
327	Adhering	0,791	0,354	+
328	Adhering	0,250	0,559	+
329	Moving	4,279	6,088	+
330	Moving	4,039	5,815	+
331	Moving	4,070	5,942	+
332	Moving	3,579	6,088	+
333	Moving	2,795	5,722	+
334	Moving	3,717	6,250	+
335	Moving	3,717	5,031	+
336	Moving	3,335	5,534	+
337	Moving	2,151	7,115	+
338	Adhering	0,354	0,354	+

339	Moving	4,924	5,852	+
340	Moving	2,915	4,472	+
341	Unmoving	0,354	3,482	+
342	Moving	4,596	6,643	+
343	Moving	3,473	7,988	+
344	Moving	4,981	6,731	+
345	Moving	1,953	5,942	+
346	Moving	1,601	7,198	+
347	Moving	7,280	9,014	+
348	Moving	3,717	5,483	+
349	Moving	3,579	5,772	+
350	Moving	2,761	5,712	+
351	Moving	2,016	3,250	+
352	Moving	5,534	8,867	+
353	Moving	2,151	5,526	+
354	Moving	3,579	6,408	+
355	Moving	4,316	7,115	+
356	Moving	1,250	4,191	+
357	Moving	4,316	6,175	+
358	Moving	4,472	5,852	+
359	Moving	2,850	6,374	+

360	Moving	1,601	6,088	+
361	Moving	2,574	6,010	+
362	Moving	5,154	6,408	+
363	Moving	4,316	6,490	+
364	Moving	4,191	5,031	+
365	Moving	2,850	5,062	+
366	Moving	2,236	4,272	+
367	Moving	4,191	5,942	+
368	Moving	5,590	7,762	+
369	Moving	4,743	6,500	+
370	Moving	1,820	7,387	+
371	Moving	4,039	5,562	+
372	Moving	5,031	7,058	+
373	Moving	2,915	8,732	+
374	Moving	1,250	5,460	+
375	Moving	2,500	6,325	+
376	Moving	1,346	2,016	+
377	Adhering	1,061	0,354	-
378	Moving	5,618	7,669	+
379	Moving	3,824	7,591	+
380	Moving	3,041	5,385	+

381	Moving	1,768	4,373	+
382	Moving	6,427	8,779	+
383	Moving	4,366	6,088	+
384	Moving	3,579	6,600	+
385	Moving	4,191	5,483	+
386	Moving	5,220	6,500	+
387	Moving	3,041	5,852	+
388	Moving	6,731	7,988	+
389	Moving	1,803	6,042	+
390	Moving	4,191	5,942	+
391	Unmoving	0,354	1,904	+
392	Adhering	0,559	0,559	+
393	Moving	4,316	6,010	+
394	Moving	3,482	6,010	+
395	Moving	2,016	4,670	+
396	Moving	2,106	3,250	+
397	Moving	4,423	3,913	+
398	Moving	2,915	4,472	+
399	Moving	3,953	5,712	+
400	Unmoving	0,791	2,151	+
401	Moving	5,701	9,657	+

402	Moving	4,697	6,088	+
403	Moving	4,272	5,590	+
404	Moving	3,640	6,042	+
405	Moving	1,953	1,820	+
406	Unmoving	0,250	0,250	-
407	Moving	1,346	0,250	+
408	Moving	5,303	1,904	+
409	Moving	3,010	0,559	+
410	Moving	2,062	0,500	+
411	Moving	4,776	1,677	+
412	Moving	4,070	1.031	+
413	Unmoving	0,559	0,250	+
414	Moving	2,926	1,250	+
415	Moving	4,123	1,581	+
416	Unmoving	0,000	0,000	+
417	Moving	3,041	1,118	+
418	Moving	1,500	0,000	-
419	Moving	3,824	1,275	+
420	Moving	3,824	1,275	+
421	Unmoving	0,750	0,559	+
422	Moving	5,099	1,803	+

423	Unmoving	0,791	0,354	+
424	Moving	4,008	0,901	+
425	Moving	1,904	0,354	-
426	Moving	3,881	1,677	+
427	Moving	3,808	1,000	+
428	Moving	4,809	1,904	+
429	Moving	4,451	0,250	+
430	Moving	3,717	1,250	+
431	Moving	5,344	1,601	+
432	Unmoving	0,559	0,250	+
433	Moving	4,250	2,512	+
434	Unmoving	0,901	1,601	+
435	Moving	1,500	0,707	+
436	Moving	2,264	1,768	+
437	Moving	2,850	1,275	+
438	Moving	4,366	0,559	+
439	Unmoving	0,559	0,250	+
440	Moving	6,005	1,601	+
441	Unmoving	0,354	0,354	-
442	Moving	1,803	0,000	+
443	Moving	4,697	0,250	+

444	Moving	4,507	1,031	+
445	Moving	1,346	0,750	-
446	Moving	3,717	0,901	+
447	Moving	3,250	1,031	+
448	Moving	4,366	1,346	+
449	Moving	2,795	0,559	+
450	Moving	3,717	0,901	+
451	Moving	2,264	1,275	+
452	Moving	6,175	1,061	+
453	Unmoving	0,901	0,250	+
454	Moving	4,528	1,118	+
455	Unmoving	0,750	0,559	+
456	Moving	1,118	0,500	+
457	Moving	2,016	0,559	+
458	Moving	1,750	0,250	+
459	Unmoving	0,000	0,000	+
460	Moving	4,191	2,016	+
461	Moving	2,372	0,354	+
462	Moving	2,062	0,500	+
463	Moving	3,783	1,031	+
464	Unmoving	0,000	0,000	+

465	Moving	4,008	0,901	+
466	Moving	4,279	1,250	+
467	Moving	2,016	0,250	+
468	Moving	1,820	0,559	+
469	Moving	3,536	0,707	+
470	Moving	1,581	0,500	+
471	Moving	3,335	0,791	+
472	Unmoving	1,000	0,000	+
473	Unmoving	0,559	0,250	-
474	Moving	3,824	1,275	+
475	Moving	3,808	1,581	+
476	Moving	3,640	1,000	+
477	Moving	4,589	0,559	+
478	Moving	2,372	1,275	+
479	Unmoving	0,250	0,559	-
480	Unmoving	0,559	0,250	+
481	Moving	0,601	0,250	+
482	Unmoving	0,250	0,250	-
483	Moving	1,500	0,500	+
484	Moving	3,758	1,458	+
485	Moving	5,056	1,346	+



486	Unmoving	0,500	0,000	+
487	Moving	3,041	0,500	+
488	Moving	2,016	0,901	+
489	Moving	5,148	0,500	+
490	Moving	1,301	0,750	+
491	Unmoving	0,354	0,354	+
492	Moving	1,458	0,354	+
493	Moving	1,031	0,750	+
494	Unmoving	0,901	0,250	+
495	Moving	3,579	0,559	+
496	Unmoving	0,901	0,250	+
497	Unmoving	0,000	0,000	+
498	Moving	3,335	0,354	+
499	Unmoving	0,500	0,000	+
500	Unmoving	0,000	0,000	+
501	Moving	4,257	1,458	+
502	Moving	4,070	1,601	+
503	Moving	2,462	0,559	+
504	Unmoving	0,250	0,250	-
505	Moving	1,250	0,250	+
506	Moving	1,768	0,354	+

507	Unmoving	0,500	0,000	+
508	Moving	3,509	1,346	+
509	Moving	4,366	1,677	+
510	Moving	1,458	0,354	+
511	Unmoving	0,250	0,250	-
512	Moving	2,062	0,000	+
513	Moving	3,162	1,581	+
514	Moving	1,581	0,500	+
515	Moving	3,758	1,061	+
516	Moving	2,574	0,791	+
517	Moving	2,121	0,500	+
518	Moving	4,123	1,000	+
519	Unmoving	0,750	0,901	+
520	Moving	3,041	1,118	+
521	Moving	1,275	0,354	+
522	Unmoving	0,707	0,000	+
523	Moving	2,264	2,151	+
524	Unmoving	0,250	0,250	+
525	Moving	3,808	1,118	+
526	Unmoving	0,559	0,559	-
527	Moving	3,288	1,250	+

528	Moving	3,288	1,601	+
529	Moving	3,010	0,750	+
530	Moving	1,250	0,250	+
531	Moving	2,264	0,791	+
532	Unmoving	0,791	0,354	+
533	Unmoving	0,250	0,250	-
534	Moving	3,640	0,707	+
535	Moving	2,372	0,791	+
536	Unmoving	0,559	0,250	+
537	Moving	4,070	1,346	+
538	Moving	2,062	0,707	+
539	Unmoving	0,559	0.250	-
540	Moving	3,579	1.346	+
541	Moving	3,783	1,031	+
542	Unmoving	0,559	0,250	+
543	Moving	4,191	0,901	+
544	Unmoving	0,250	0,250	-
545	Moving	4,123	1,414	+
546	Moving	2,850	0,791	+
547	Moving	4,031	1,414	+
548	Moving	6,010	1,458	+

549	Moving	4,500	0,707	+
550	Moving	2,750	1,250	+
551	Moving	6,185	0,707	+
552	Unmoving	0,354	0,354	+
553	Moving	1,953	0,250	+
554	Moving	1,118	0,500	+
555	Moving	4,070	1,601	+
556	Unmoving	0,500	0,000	-
557	Moving	2,372	0,791	+
558	Unmoving	0,250	0,559	-
559	Moving	1,275	1,061	+
560	Moving	3,092	1,250	+
561	Moving	4,250	0,559	+
562	Unmoving	0,500	0,000	-
563	Unmoving	0,559	0,250	-
564	Moving	1,677	0,250	+
565	Unmoving	0,354	0,354	+
566	Moving	5,884	2,151	+
567	Unmoving	0,791	0,354	+
568	Moving	5,154	2,305	+
569	Moving	2,358	0,901	+

570	Moving	5,297	2,704	+
571	Unmoving	0,791	0,354	+
572	Moving	5,836	1,953	+
573	Moving	2,264	0,354	-
574	Moving	1,768	0,354	+
575	Moving	3,010	0,250	+
576	Moving	3,482	0,791	+
577	Unmoving	0,000	0,500	+
578	Unmoving	0,901	0,250	+
579	Moving	1,250	0,250	+
580	Unmoving	0,354	0,354	+
581	Moving	4,528	2,121	+
582	Unmoving	0,354	0,354	+
583	Unmoving	0,707	0,500	+
584	Moving	4,912	1,768	+
585	Moving	4,776	1,953	+
586	Moving	3,335	1,458	+
587	Moving	4,912	2,151	+
588	Moving	5,884	2,475	+
589	Unmoving	0,354	0,354	+
590	Unmoving	0,354	0,354	+

591	Moving	2,264	0,791	+
592	Unmoving	0,707	0,000	+
593	Moving	3,509	0,901	+
594	Moving	4,981	2,305	+
595	Unmoving	0,354	0,354	+
596	Moving	1,820	1,031	+
597	Unmoving	0,791	0,354	+
598	Unmoving	1,000	0,500	+
599	Moving	2,264	0,791	+
600	Moving	5,344	1,953	+
601	Moving	1,581	1,118	+
602	Unmoving	0,791	0,791	+
603	Moving	5,344	1,601	+
604	Unmoving	0,791	0,354	+
605	Moving	2,704	0,559	+
606	Unmoving	0,707	0,000	-
607	Moving	3,092	1,250	+
608	Unmoving	0,354	0,354	-
609	Unmoving	0,791	0,354	+
610	Moving	2,358	1,677	+
611	Unmoving	0,354	0,354	+

612	Moving	2,795	0,250	+
613	Moving	4,191	1,031	+
614	Moving	5,551	1,346	+
615	Moving	6,750	1,953	+
616	Moving	1,953	0,559	+
617	Moving	1,275	0,791	+
618	Moving	3,905	1,118	+
619	Unmoving	0,901	0,559	+
620	Moving	3,041	0,500	+
621	Unmoving	0,791	0,354	-
622	Moving	3,606	0,000	+
623	Moving	4,776	1,953	+
624	Moving	3,758	0,354	+
625	Unmoving	0,250	0,750	+
626	Moving	2,016	1,250	+
627	Unmoving	0,354	0,354	+
628	Unmoving	0,791	0,354	+
629	Unmoving	0,500	0,000	-
630	Moving	3,400	0,250	+
631	Moving	5,025	0,000	-
632	Unmoving	0,707	0,000	-

633	Unmoving	0,500	0,000	-
634	Moving	4,430	0,354	+
635	Moving	1,118	0,707	-
636	Moving	4,912	0,354	+
637	Unmoving	0,559	0,250	+
638	Unmoving	0,707	1,000	+
639	Unmoving	0,250	1,031	-
640	Moving	4,316	0,354	+
641	Moving	4,670	0,250	+
642	Unmoving	0,559	0,559	-
643	Unmoving	0,901	0,559	+
644	Moving	5,056	0,559	+
645	Moving	5,056	0,250	+
646	Moving	4,776	0,559	-
647	Unmoving	0,791	0,354	+
648	Unmoving	0,250	0,559	-
649	Moving	4,039	0,250	+
650	Moving	2,151	0,354	+
651	Unmoving	0,354	0,354	-
652	Unmoving	0,559	0,250	-
653	Unmoving	0,791	0,354	-



654	Unmoving	0,750	0,250	+
655	Unmoving	0,750	0,559	-
656	Moving	3,162	1,000	+
657	Unmoving	0,750	0,559	-
658	Unmoving	0,250	0,250	+
659	Moving	3,640	0,500	+
660	Moving	1,250	0,250	-
661	Moving	1,031	1,346	+
662	Moving	2,236	1,581	+
663	Unmoving	0,750	0,250	+
664	Moving	3,509	0,559	+
665	Unmoving	0,707	0,000	-
666	Moving	2,610	0,250	+
667	Moving	3,335	1,768	+
668	Unmoving	0,791	0,354	+
669	Moving	1,250	0,559	+
670	Moving	1,061	0,791	-
671	Moving	1,750	1,750	+
672	Moving	4,776	0,250	+
673	Moving	1,768	0,791	+
674	Moving	4,809	0,354	+

675	Moving	1,031	0,750	+
676	Unmoving	0,707	0,000	-
677	Moving	1,581	0,000	-
678	Moving	3,750	0,559	+
679	Moving	1,118	0,000	=
680	Moving	1,250	0,750	+
681	Unmoving	0,750	1,677	+
682	Moving	3,640	0,500	+
683	Moving	1,250	1,031	-
684	Moving	6,185	0,500	+
685	Unmoving	0,750	0,250	+
686	Unmoving	0,354	0,791	-
687	Unmoving	0,000	0,500	+
688	Moving	1,904	1,061	+
689	Unmoving	0,250	1,031	+
690	Unmoving	0,500	0,707	+
691	Unmoving	0,559	0,250	+
692	Moving	1,061	1,275	+
693	Moving	5,256	0,354	+
694	Moving	1,118	0,000	-
695	Unmoving	1,000	0,000	-

696	Moving	2,500	0,500	+
697	Moving	4,316	0,354	+
698	Moving	3,824	0,354	+
699	Unmoving	0,500	0,500	-
700	Moving	1,118	1,000	+
701	Unmoving	0,901	0,250	-
702	Unmoving	0,000	0,000	+
703	Moving	4,191	0,750	+
704	Unmoving	0,354	0,791	-
705	Moving	2,926	0,250	+
706	Unmoving	0,559	0,250	-
707	Unmoving	0,791	0,791	+
708	Moving	3,640	0,500	+
709	Moving	3,162	0,500	+
710	Moving	1,803	1,000	-
711	Unmoving	0,559	0,250	+
712	Unmoving	0,750	0,559	+
713	Unmoving	0,707	0,000	-
714	Moving	1,118	0,000	+
715	Moving	1,953	0,559	+
716	Moving	2,500	2,062	+

717	Moving	3,092	1,521	+
718	Moving	4,912	0,791	+
719	Moving	1,500	1,000	+
720	Unmoving	0,750	0,250	-
721	Unmoving	0,500	0,000	-
722	Moving	3,783	0,559	+
723	Moving	3,536	0,000	+
724	Unmoving	0,354	0,354	+
725	Moving	5,303	0,354	+
726	Unmoving	0,791	0,354	+
727	Unmoving	0,707	1,500	+
728	Moving	4,366	0,250	+
729	Unmoving	0,901	0,250	-
730	Moving	4,366	0,250	+
731	Moving	5,256	0,354	+

**Science and Technology Institution**

**“Engineering Center”**

**COMPLEX “CYTO-EXPERT”**

**REPORT ON RESULTS OF PROCESSING OF VIDEO RECORDING OF  
SIGN-VARIABLE MICROELECTROPHORESIS**

**File: E:\...\User\Desktop\reports\№2.mef=Erythrocytes BEFORE  
BEGINNING OF ACTIVATION BY DEVICE BIOMEDIS-M-Aggregated  
data**

**Program version: 1.4**

**Report version: 2**

**Electronic report: E:\...\User\Desktop\reports=**

**Creation date: 04.02.14**

**Part 1. Processing options**

Pixel size: 0,500  $\mu\text{m}$

Radius of objects: 5pixels

First snapshot of processing: 0

Last snapshot of processing: 130

Processed through snapshots: 1

## **Part 2. Estimated statistical parameters of sampling of objects' oscillating amplitudes**

Total amount of objects: 365

Adhering objects of total amount: 0 (0,00%)

Objects with torsion of total amount: 0 (0,00%)

Objects with rupture of total amount: 141 (38,63%)

Objects which are suitable for processing: 224

Number of unmoving objects of those suitable for processing: 68

Percent of unmoving objects: 30,36%

Average amplitude of oscillations: 4,70  $\mu\text{m}$

Average deviation of amplitudes: 0,35  $\mu\text{m}$

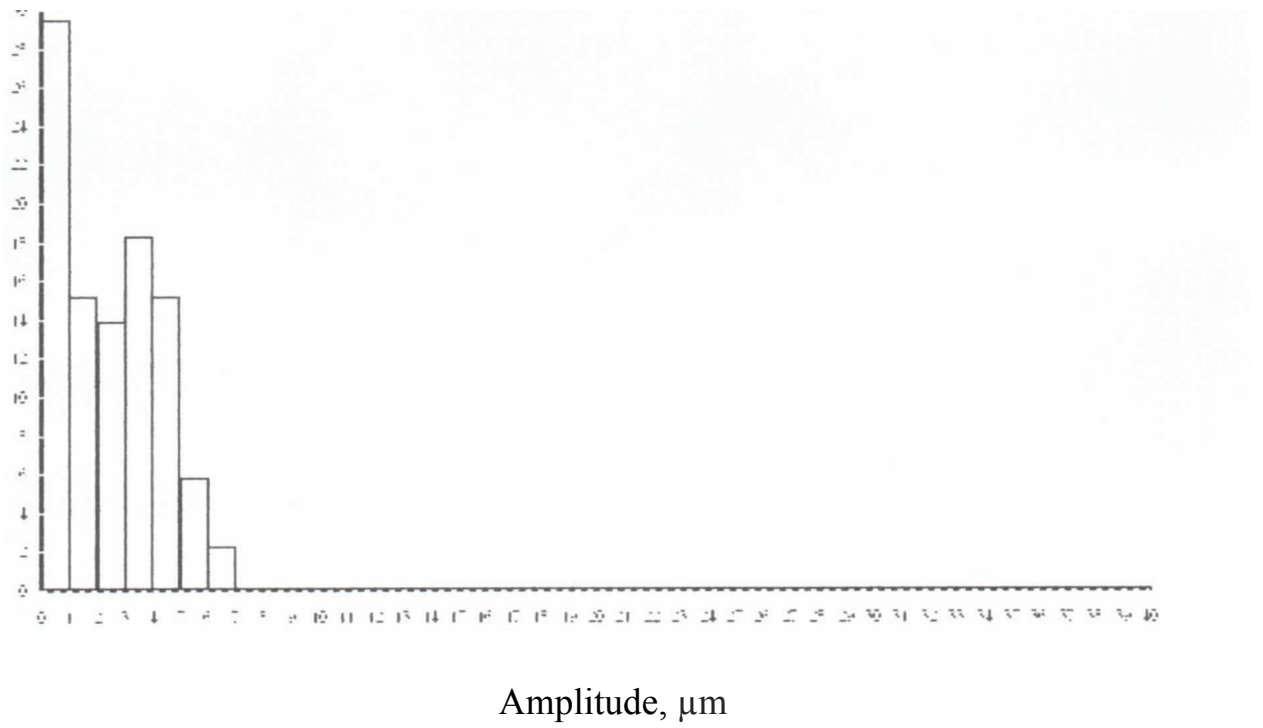
Asymmetry: 0,49

Outrage: -0,77

Average amount of fluid flow: 0,81  $\mu\text{m}$

Average deviation of fluid flow: 0,61  $\mu\text{m}$

## **Part 3. Graphics**



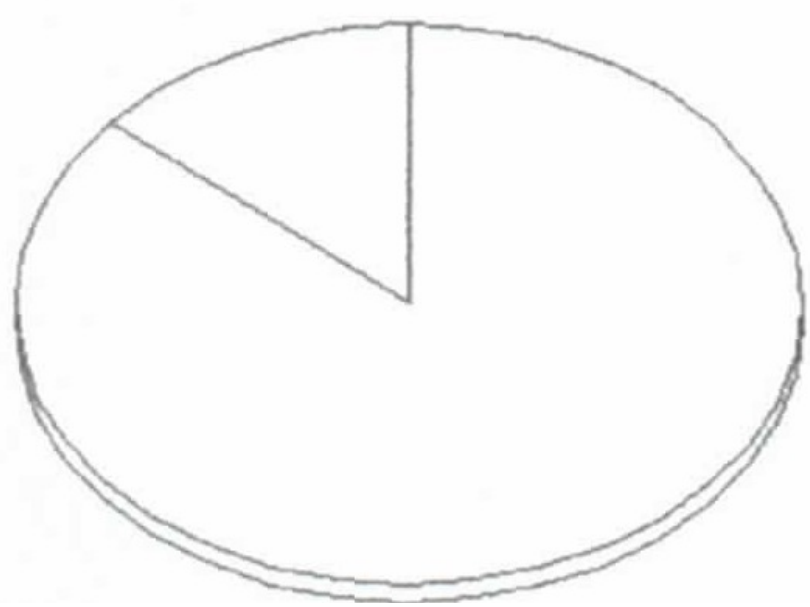
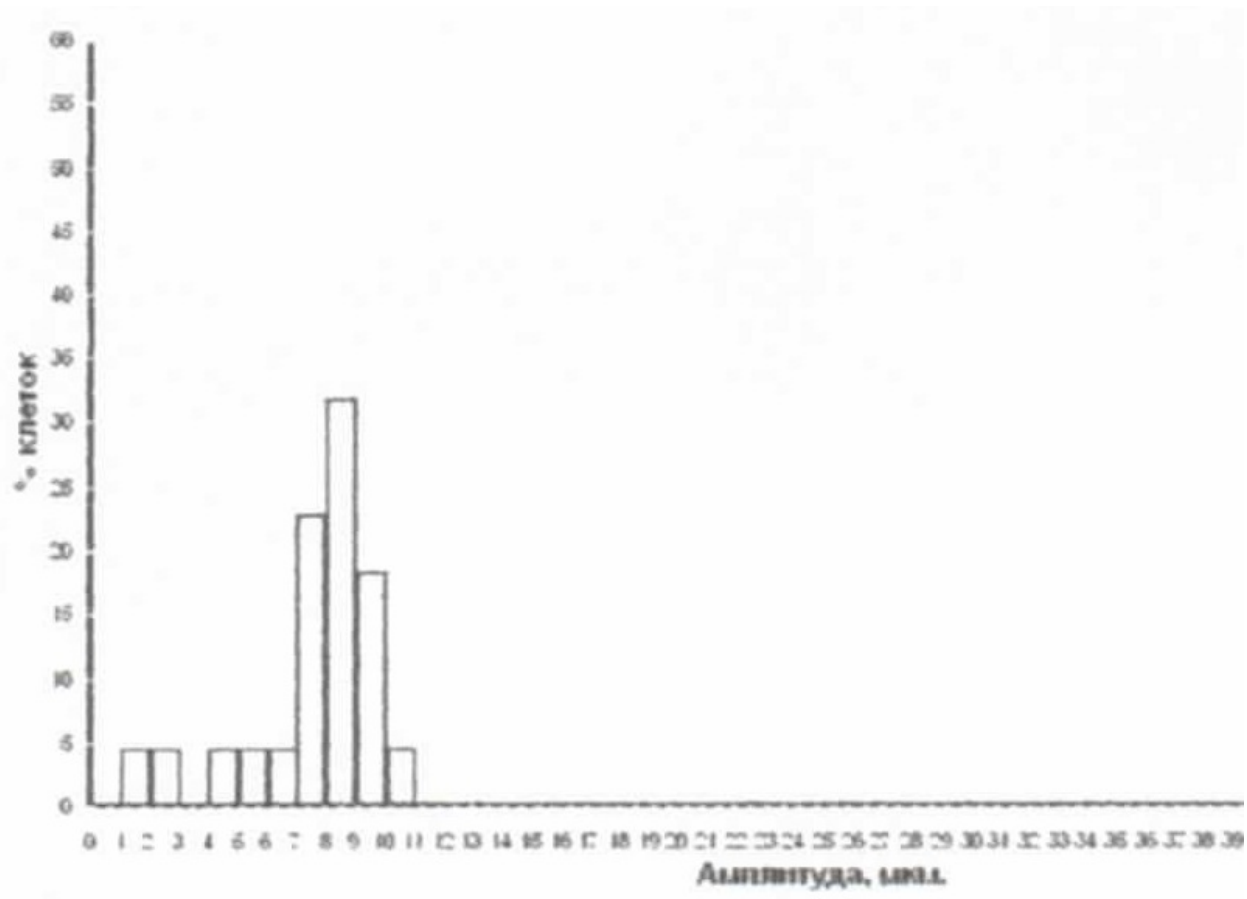
Picture 1. Histogram of distribution of oscillations' amplitudes of erythrocytes



Amplitude,  $\mu\text{m}$

Picture 2. Histogram of flow's distribution





0 rolling                      0 unmoving  
 3 adhering                    19 moving

**Science and Technology Institution**

**“Engineering Center”**

**COMPLEX “CYTO-EXPERT”**

**REPORT ON RESULTS OF PROCESSING OF VIDEO RECORDING OF  
SIGN-VARIABLE MICROELECTROPHORESIS**

**File: D:\...\WORKDIR\ERYTHR.Pneum.Before impact.**

**Program version: 1.4**

**Report version: 2**

**Electronic report: C:\...\control.doc pneum. BIOMEDIS**

**Creation date: 12.02.2014**

**Part 1. Processing options**

Pixel size: 0,245  $\mu\text{m}$

Radius of objects: 5pixels

First snapshot of processing: 10

Last snapshot of processing: 100

Processed through snapshots: 1

## **Part 2. Estimated statistical parameters of sampling of objects' oscillating amplitudes**

Total amount of objects: 140

Adhering objects of total amount: 0 (0,00%)

Objects with torsion of total amount: 0 (0,00%)

Objects with rupture of total amount: 135 (96,43%)

Objects which are suitable for processing: 5

Number of unmoving objects of those suitable for processing: 5

Percent of unmoving objects: 100,00%

Average amplitude of oscillations: 0,00  $\mu\text{m}$

Average deviation of amplitudes: 0,00  $\mu\text{m}$

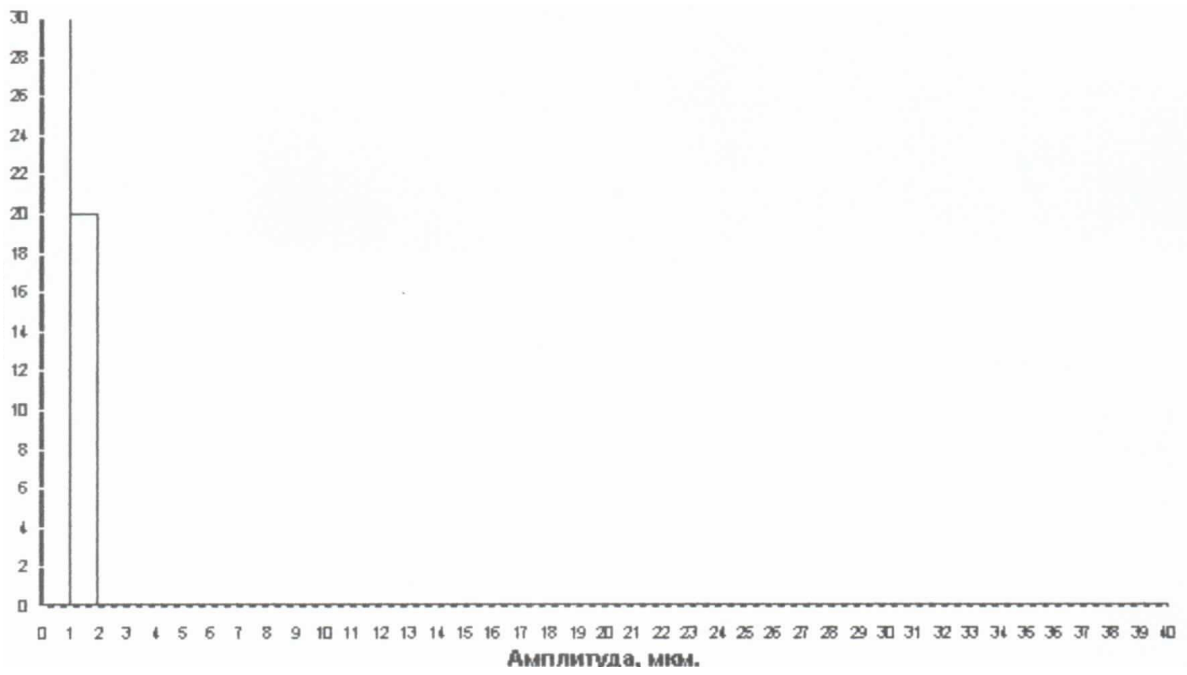
Asymmetry: 0,00

Outrage: 0,00

Average amount of fluid flow: 0,22  $\mu\text{m}$

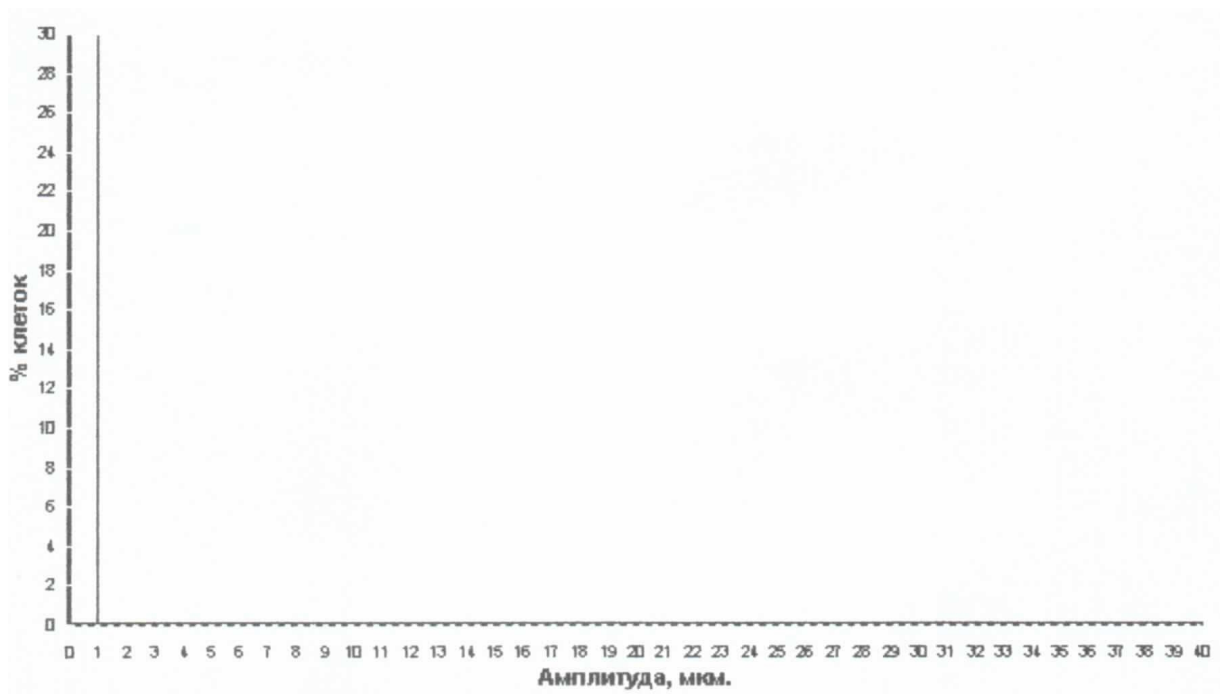
Average deviation of fluid flow: 0,29  $\mu\text{m}$

## **Part 3. Graphics**



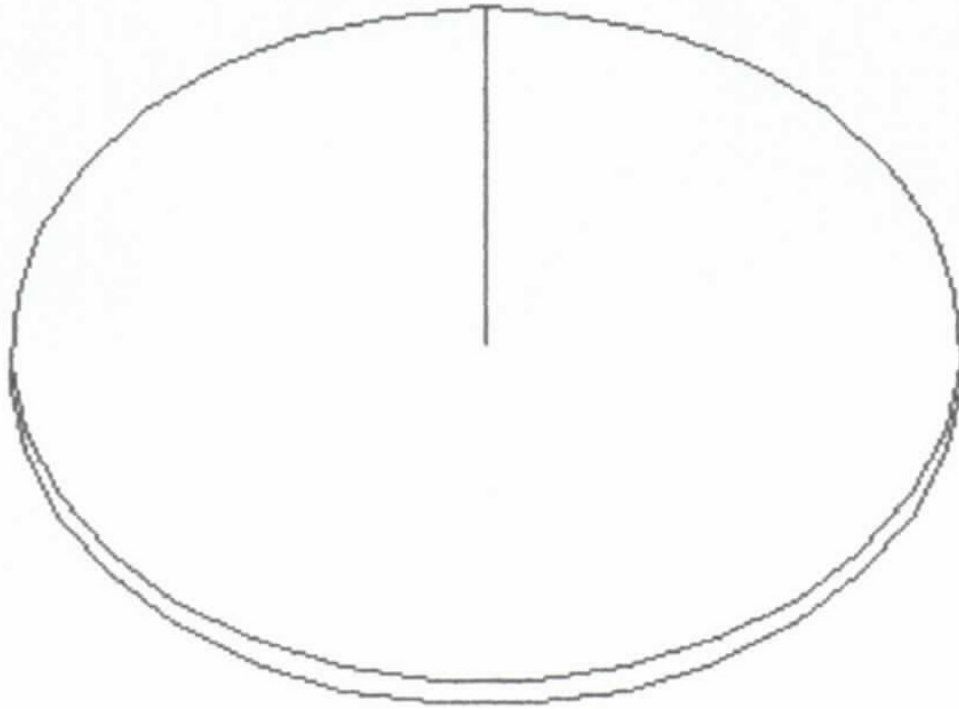
Amplitude,  $\mu\text{m}$

Picture 1. Histogram of distribution of oscillations' amplitudes of erythrocytes



Amplitude,  $\mu\text{m}$

Picture 2. Histogram of flow's distribution



0 rolling

0 moving

0 adhering

5 unmoving

Picture 3. Diagram of relations: moving/unmoving

**Science and Technology Institution**

**“Engineering Center”**

**COMPLEX “CYTO-EXPERT”**

**REPORT ON RESULTS OF PROCESSING OF VIDEO RECORDING OF  
SIGN-VARIABLE MICROELECTROPHORESIS**

**File: D:\...\NTU\WORKDIR\ERYTHR.Pneum.Deep cleaning.After  
impact=BIOMEDIS**

**Program version: 1.4**

**Report version: 2**

**Electronic report: C:\...\**

**Creation date: 12.02.2014**

**Part 1. Processing options**

Pixel size: 0,245  $\mu\text{m}$

Radius of objects: 5pixels

First snapshot of processing: 10

Last snapshot of processing: 100

Processed through snapshots: 1

## **Part 2. Estimated statistical parameters of sampling of objects' oscillating amplitudes**

Total amount of objects: 244

Adhering objects of total amount: 0 (0,00%)

Objects with torsion of total amount: 0 (0,00%)

Objects with rupture of total amount: 239 (97,95%)

Objects which are suitable for processing: 5

Number of unmoving objects of those suitable for processing: 4

Percent of unmoving objects: 80,00%

Average amplitude of oscillations: 3,81  $\mu\text{m}$

Average deviation of amplitudes: 0,00  $\mu\text{m}$

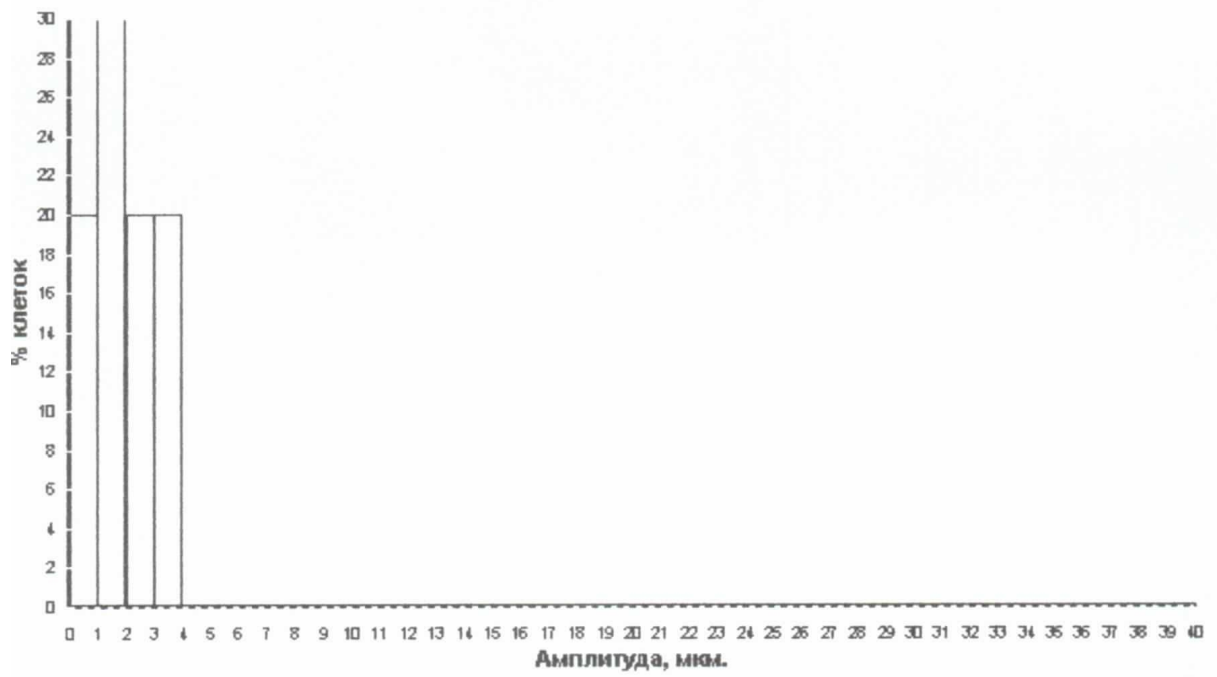
Asymmetry: 0,00

Outrage: 0,00

Average amount of fluid flow: 0,64  $\mu\text{m}$

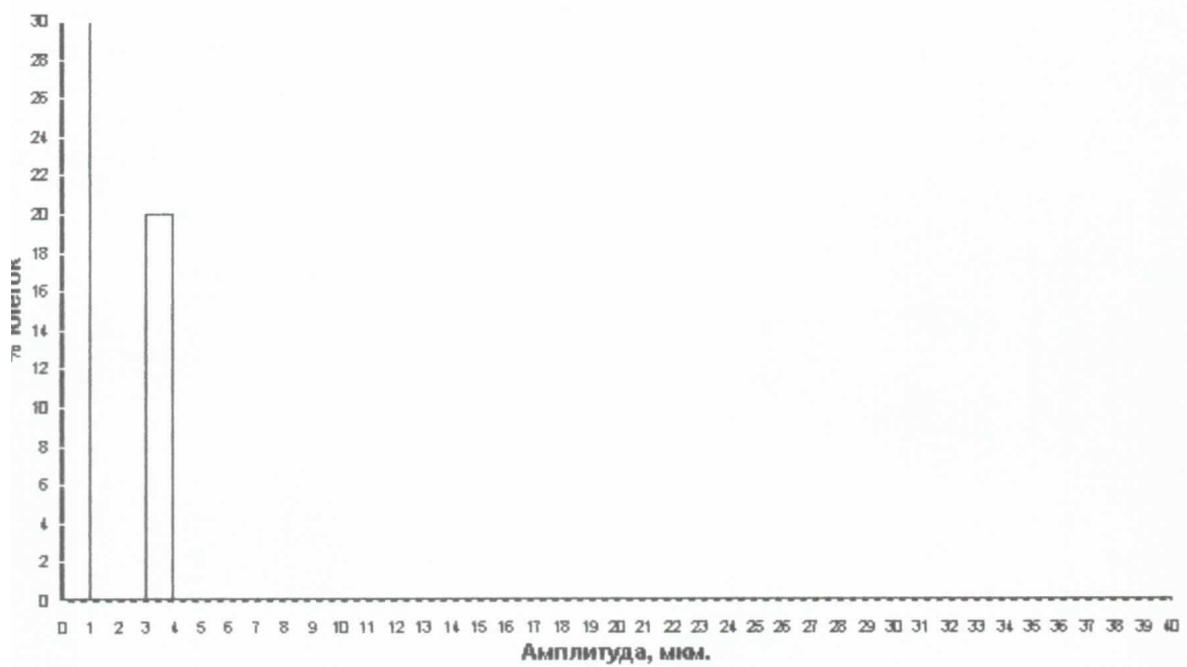
Average deviation of fluid flow: 1,19  $\mu\text{m}$

## **Part 3. Graphics**



Amplitude,  $\mu\text{m}$

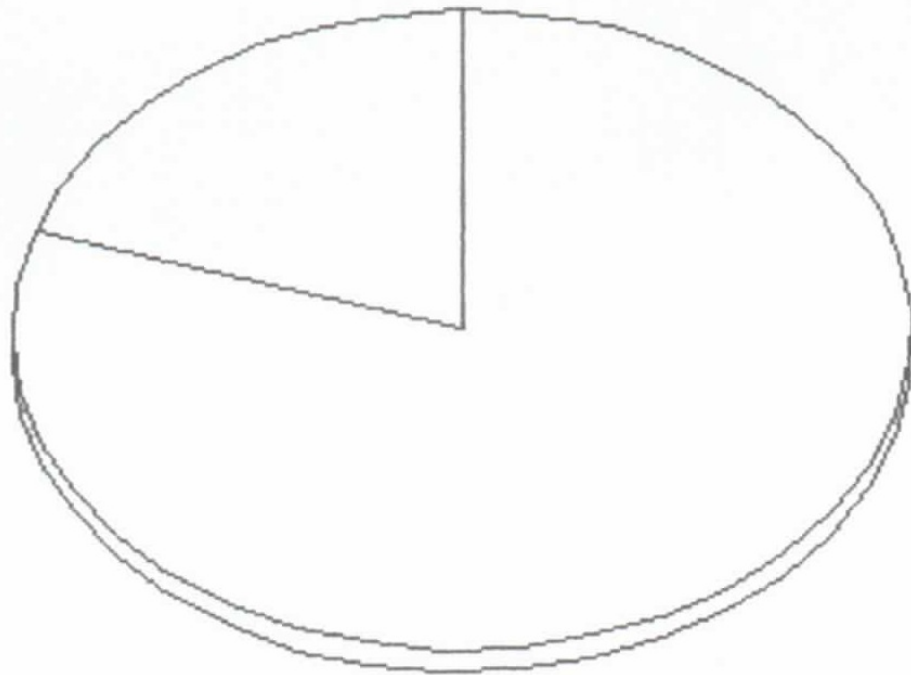
Picture 1. Histogram of distribution of oscillations' amplitudes of erythrocytes



Amplitude,  $\mu\text{m}$



Picture 2. Histogram of flow's distribution



0 adhering

0 rolling

1 moving

4 unmoving

Picture 3. Diagram of relations: moving/unmoving

## **Influence of resonance impact on leukocytes**

If impact exercised by the program “Leukocytes” is absent, leukocytes in people with pneumonia don’t react to activity of electric field. When the program “Leukocytes” influences on blood, stimulation of leukocytes takes place during MEF. Amount of cells moving in electric field is equal to  $-39,4 \pm 2,9\%$  with amplitude comparable to amplitude of erythrocytes.

When the program “Deep cleaning” is used, percent of activated cells increases till  $46,7 \pm 3,2$ .

## **Studying of bronchi’s carcinomas**

It has been found that if the programs “Cancer” and “Cancerogenic factor” influence on selected malignant tumors’ cells, they cause stage degeneration of these cells. Processes of degenerations are typical for these programs; they last 15 minutes, ending with complete destruction of cells. At the beginning malignant cells become hyperchromic; then vacuolization of cytoplasm takes place. The process ends with fragmentation with destruction of cells.

## **4. Discussion of results**

Change of bioelectric features of cells is a result of their penetrability’s change and a result of transformation of ferment cascade’s cells.

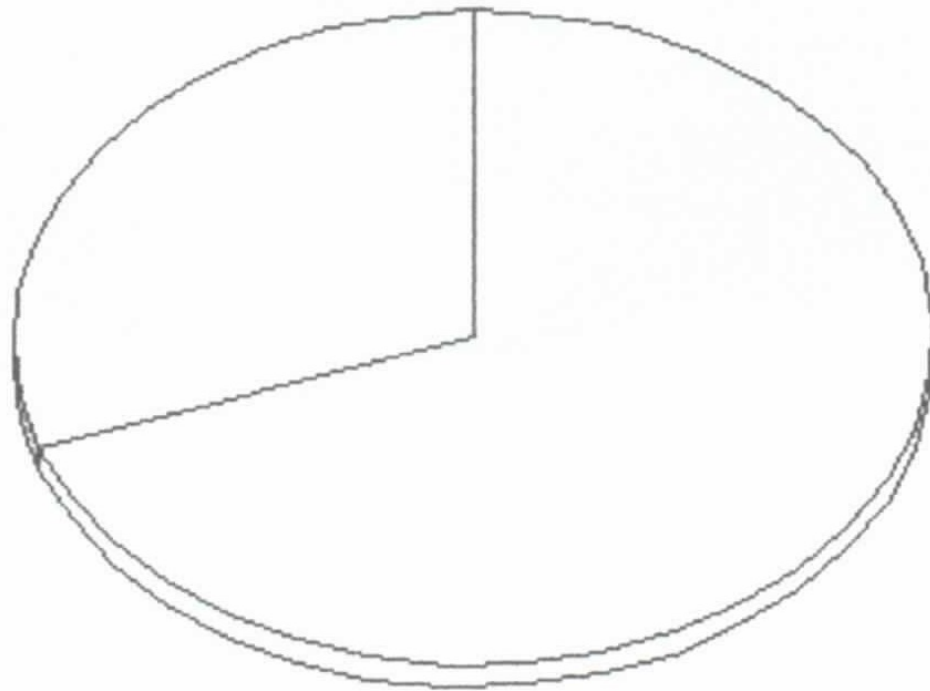
## **5. Conclusions**

The studied programs of BIOMEDIS’ devices are effective in case of corrective exposure on human cells. The effect of destructive impact of the programs

“Cancer” and “Cancerogenic factor” on malignant tumors’ cells of bronchi’s carcinomas is expressed clearly.

## 6. Sources of information

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0 Adhering

0 Rolling

68 Unmoving

156 Moving

Picture 3 Diagram of relations: moving/unmoving

**Table 1. Found objects**

Number of object	Status	Amplitude	Flow	Sign
1	Moving	1,953	1,820	+
2	Unmoving	0,250	0,250	-

3	Moving	1,346	0,250	+
4	Moving	5,303	1,904	+
5	Moving	3,010	0,559	+
6	Moving	2,062	0,500	+
7	Moving	4,776	1,677	+
8	Moving	4,070	1,031	+
9	Unmoving	0,559	0,250	+
10	Moving	2,926	1,250	+
11	Moving	4,123	1,581	+
12	Unmoving	0,000	0,000	+
13	Moving	3,041	1,118	+
14	Moving	1,500	0,000	-
15	Moving	3,824	1,275	+
16	Moving	3,824	1,275	+
17	Unmoving	0,750	0,559	+
18	Moving	5,099	1,803	+
19	Unmoving	0,791	0,354	+
20	Moving	4,008	0,901	+
21	Moving	1,904	0,354	-
22	Moving	3,881	1,677	+
23	Moving	3,808	1,000	+

24	Moving	4,809	1,904	+
25	Moving	4,451	0,250	+
26	Moving	3,717	1,250	+
27	Moving	5,344	1,601	+
28	Unmoving	0,559	0,250	+
29	Moving	4,250	2,512	+
30	Unmoving	0,901	1,601	+
31	Moving	1,500	0,707	+
32	Moving	2,264	1,768	+
33	Moving	2,850	1,275	+
34	Moving	4,366	0,559	+
35	Unmoving	0,559	0,250	+
36	Moving	6,005	1,601	+
37	Unmoving	0,354	0,354	-
38	Moving	1,803	0,000	+
39	Moving	4,697	0,250	+
40	Moving	4,507	1,031	+
41	Moving	1,346	0,750	-
42	Moving	3,717	0,901	+
43	Moving	3,250	1,031	+
44	Moving	4,366	1,346	+

45	Moving	2,795	0,559	+
46	Moving	3,717	0,901	+
47	Moving	2,264	1,275	+
48	Moving	6,175	1,061	+
49	Unmoving	0,901	0,250	+
50	Moving	4,528	1,118	+
51	Unmoving	0,750	0,559	+
52	Moving	1,118	0,500	+
53	Moving	2,016	0,559	+
54	Moving	1,750	0,250	+
55	Unmoving	0,000	0,000	+
56	Moving	4,191	2,016	+
57	Moving	2,372	0,354	+
58	Moving	2,062	0,500	+
59	Moving	3,783	1,031	+
60	Unmoving	0,000	0,000	+
61	Moving	4,008	0,901	+
62	Moving	4,279	1,250	+
63	Moving	2,016	0,250	+
64	Moving	1,820	0,559	+
65	Moving	3,536	0,707	+

66	Moving	1,581	0,500	+
67	Moving	3,335	0,791	+
68	Unmoving	1,000	0,000	+
69	Unmoving	0,559	0,250	-
70	Moving	3,824	1,275	+
71	Moving	3,808	1,581	+
72	Moving	3,640	1,000	+
73	Moving	4,589	0,559	+
74	Moving	2,372	1,275	+
75	Unmoving	0,250	0,559	-
76	Unmoving	0,559	0,250	+
77	Moving	1,601	0,250	+
78	Unmoving	0,250	0,250	-
79	Moving	1,500	0,500	+
80	Moving	3,758	1,458	+
81	Moving	5,056	1,346	+
82	Unmoving	0,500	0,000	+
83	Moving	3,041	0,500	+
84	Moving	2,016	0,901	+
85	Moving	5,148	0,500	+
86	Moving	1,031	0,750	+



87	Unmoving	0,354	0,354	+
88	Moving	1,458	0,354	+
89	Moving	1,031	0,750	+
90	Unmoving	0,901	0,250	+
91	Moving	3,579	0,559	+
92	Unmoving	0,901	0,250	+
93	Unmoving	0,000	0,000	+
94	Moving	3,335	0,354	+
95	Unmoving	0,500	0,000	+
96	Unmoving	0,000	0,000	+
97	Moving	4,527	1,458	+
98	Moving	4,070	1,601	+
99	Moving	2,462	0,559	+
100	Unmoving	0,250	0,250	-
101	Moving	1,250	0,250	+
102	Moving	1,768	0,354	+
103	Unmoving	0,500	0,000	+
104	Moving	3,509	1,346	+
105	Moving	4,366	1,677	+
106	Moving	1,458	0,354	+
107	Unmoving	0,250	0,250	-

108	Moving	2,062	0,000	+
109	Moving	3,162	1,581	+
110	Moving	1,581	0,500	+
111	Moving	3,758	1,061	+
112	Moving	2,574	0,791	+
113	Moving	2,121	0,500	+
114	Moving	4,123	1,000	+
115	Unmoving	0,750	0,901	+
116	Moving	3,041	1,118	+
117	Moving	1,275	0,354	+
118	Unmoving	0,707	0,000	+
119	Moving	2,264	2,151	+
120	Unmoving	0,250	0,250	-
121	Moving	3,808	1,118	+
122	Unmoving	0,559	0,559	-
123	Moving	3,288	1,250	+
124	Moving	3,288	1,601	+
125	Moving	3,010	0,750	+
126	Moving	1,250	0,250	+
127	Moving	2,264	0,791	+
128	Unmoving	0,791	0,354	+

129	Unmoving	0,250	0,250	=
130	Moving	3,640	0,707	+
131	Moving	2,372	0,791	+
132	Unmoving	0,559	0,250	+
133	Moving	4,070	1,346	+
134	Moving	2,062	0,707	+
135	Unmoving	0,559	0,250	-
136	Moving	3,579	1,346	+
137	Moving	3,783	1,031	+
138	Unmoving	0,559	0,250	+
139	Moving	4,191	0,901	+
140	Unmoving	0,250	0,250	-
141	Moving	4,123	1,414	+
142	Moving	2,850	0,791	+
143	Moving	4,031	1,414	+
144	Moving	6,010	1,458	+
145	Moving	4,500	0,707	+
146	Moving	2,750	1,250	+
147	Moving	6,185	0,707	+
148	Unmoving	0,354	0,354	+
149	Moving	1,953	0,250	+

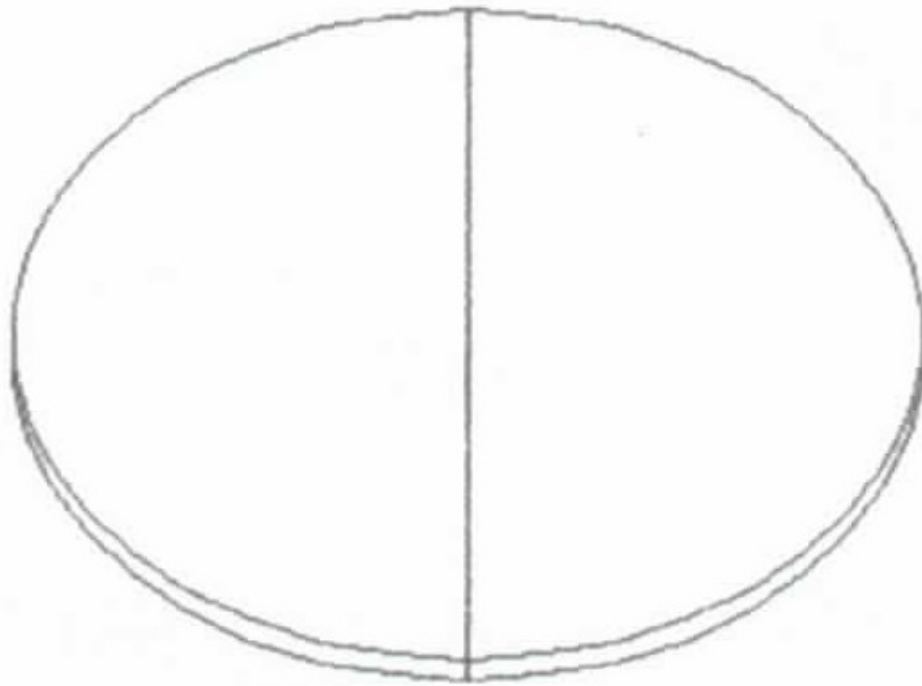
150	Moving	1,118	0,500	+
151	Moving	4,070	1,601	+
152	Unmoving	0,500	0,000	-
153	Moving	2,372	0,791	+
154	Unmoving	0,250	0,559	-
155	Moving	1,275	1,061	+
156	Moving	3,092	1,250	+
157	Moving	4,250	0,559	+
158	Unmoving	0,500	0,000	-
159	Unmoving	0,559	0,250	-
160	Moving	1,677	0,250	+
161	Unmoving	0,354	0,354	+
162	Moving	5,884	2,151	+
163	Unmoving	0,791	0,354	+
164	Moving	5,154	2,305	+
165	Moving	2,358	0,901	+
166	Moving	5,297	2,704	+
167	Unmoving	0,791	0,354	+
168	Moving	5,836	1,953	+
169	Moving	2,264	0,354	-
170	Moving	1,768	0,354	+

171	Moving	3,010	0,250	+
172	Moving	3,482	0,791	+
173	Unmoving	0,000	0,500	+
174	Unmoving	0,901	0,250	+
175	Moving	1,250	0,250	+
176	Unmoving	0,354	0,354	+
177	Moving	4,528	2,121	+
178	Unmoving	0,354	0,354	+
179	Unmoving	0,707	0,500	+
180	Moving	4,912	1,768	+
181	Moving	4,776	1,953	+
182	Moving	3,335	1,458	+
183	Moving	4,912	2,151	+
184	Moving	5,884	2,475	+
185	Unmoving	0,354	0,354	+
186	Unmoving	0,354	0,354	+
187	Moving	2,264	0,791	+
188	Unmoving	0,707	0,000	+
189	Moving	3,509	0,901	+
190	Moving	4,981	2,305	+
191	Unmoving	0,354	0,354	+

192	Moving	1,820	1,031	+
193	Unmoving	0,791	0,354	+
194	Unmoving	1,000	0,500	+
195	Moving	2,264	0,791	+
196	Moving	5,344	1,953	+
197	Moving	1,581	1,118	+
198	Unmoving	0,791	0,791	+
199	Moving	5,344	1,601	+
200	Unmoving	0,791	0,354	+
201	Moving	2,704	0,559	+
202	Unmoving	0,707	0,000	-
203	Moving	3,092	1,250	+
204	Unmoving	0,354	0,354	+
205	Unmoving	0,791	0,354	+
206	Moving	2,358	1,677	+
207	Unmoving	0,354	0,354	+
208	Moving	2,795	0,250	+
209	Moving	4,191	1,031	+
210	Moving	5,551	1,346	+
211	Moving	6,750	1,953	+
212	Moving	1,953	0,559	+



Amplitude,  $\mu\text{m}$



0 Adhering

0 Rolling

1 Moving

1 Unmoving

Organization: Izhevsk Medical Academy

Laboratory/Department of Histology

Goal of analysis: MEF

**REPORT ON RESULTS OF PROCESSING OF VIDEO RECORDING OF  
MEF AFTER ACTIVATION BY DEVICE BIOMEDIS-M**

**File: D:\NTU\WORKDIR\№2ERYTHROCYTES.mef**



**File of report: D:\=doc**

**Creation date: 14.01.14**

**Complex version: 3.2**

**Report version: 2.0**

## **1. Options of processing and statistic**

Sample size: 194

Confidence probability: 0,99

Pixel size: 0,49  $\mu\text{m}$

Frequency: 0,25 Hz

Intensity: 28,0 V

## **2. Statistical parameters of oscillating amplitudes of cells**

Percent of unmoving objects: 0,00%

Average amplitude of moving objects:  $6,25 \pm 0,77 \mu\text{m}$

Dispersion: 1,34 (0,65, 3,86)

Average quadratic deviation:  $0,16 \mu\text{m}$