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a single file. Each figure is presented as a separate file. All the manuscript pages are enumerated. File format for the text and tables – document MS Word (doc, docx or rtf), for figures and other illustrative material – tif, bmp, wmf, gif, jpg, eps or pdf.

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General requirements to manuscripts

The experimental work volume, including references, tables, figures with legends explaining obtained results (all on separate pages), should not exceed 20 pages (40 000 printed characters), that of the survey 30 pages (60 000 printed characters), printed out (type size 14, tables – type size 10; line spacing – 1.5).

Figures, photographs, schemes may be black-and-white or colour. Colour illustrative material is preferred.

If figures published by other authors are used in the paper, the manuscript author should have the official permission from the copyright owner of those figures.

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At the end of the paper, **References** are followed by the paper title, author's (authors') surname(s) and initials, official names of institutions where the work has been done, e-mail, **summary and key words in Russian and English in correspondence with the original Ukrainian text**. If the paper is written in Russian or English, this information is given in the Ukrainian and English or in the Ukrainian and Russian languages accordingly.

Separate requirements to manuscripts design

Text

Times New Roman type; 14 point type (tables – 10 point type); line spacing – 1.5.

All manuscript pages should be enumerated.

Tables and illustrative material

All columns in tables should have denominations and filled with corresponding data (if the experiment is not performed you write «–», if indices were not obtained you write «0».

The top of photographs should be indicated.

Place of figures and tables should be shown in the manuscript text margins.

The manuscript structure

- UDC (Universal Decimal Classification)
- The paper title
- The author's (authors') surname(s) and initials
- The Institution where the work has been done
- E-mail for correspondence
- Summary and key words
- Introduction
- Materials and methods
- Results and discussion
- Conclusions
- Acknowledgements
- References

• Summary and key words

Main investigation results are revealed in Summary in brief (no more than 250 words).

Summary should include the following basic sections: **topicality, statement of the problem, methods of settling the task, results, conclusions**.

Key words (about 10 words) are the basis for including the paper in certain sections of abstract journals. The key words should be mentioned both

in the paper title and in Summary, should be concrete for the author's research field and subfield.

• Introduction (without title)

The paper begins with the brief history of the problem with reference to sources and substantiation of the research objective.

• Materials and Methods

The section Materials and Methods should present the description of the methods, reagents and experiment conditions in such a way that the experiment could be reproduced. Generally known methods may be referred only. Names of companies and countries producers of the reagents and materials used in the experiments should be given. The number and species of the used animals as well as the methods of anaesthetization and euthanasia should be defined.

Digital data should be rounded off due to the accepted rules, allowing for the average experiment error. **The value difference authenticity should be substantiated** by statistical analysis, citing the concrete methods. The same results should not be presented in Tables and Figures. The author should indicate the program used for statistical analysis of the obtained results, presentation of results, confidence interval or distribution of values.

All the designations and denominations of physical and chemical units of measurement should be given in SI system. Amino acids are designated by three letters.

The enzymes being used in the work, their recommended or systematic **name** and **cipher** should be given, following recommendations of International Biochemical Society (Enzyme Nomenclature – Acad. Press. San Diego. California and Supplement (1-6) in Eur. J. Biochem. (1993-1997, 1999) or electron version: <http://www.chem.qmul.ac.uk/iubmb/enzyme>).

The enzyme activity should be expressed through the rate of the catalyzed reaction in μM of the transformed substrate for 1 min per 1 mg of protein. Sometimes they use two more units of enzymatic activity: standard unit of activity U (IU) and catal (cat, in brief) simplifying the transition to SI system. Specific enzyme activity is usually expressed in $\mu\text{M}/\text{min}$ per 1 mg of protein or in un.act./mg, cat/kg (R. M. C. Dawson, D. C. Elliott, W. H. Elliott, K. M. Jones. Data for Biochemical Research. – 3th edition. Clarendon Press, Oxford, 1986). In all cases the reaction conditions are specified, i.e. temperature, pH, substrate concentration.

Solutions should be concentrated in M, mM, μM , etc., but not in normal concentration (n.). If concentration is expressed in percent, it should be

specified, i.e., indices mass/mass, mass/volume, volume/volume should be mentioned. Salts used for making solutions – crystalline hydrates or waterless – should be also mentioned.

A term **relative molecular mass** M_r (ratio between substance molecule mass to 1/12 of carbon atom C_{12}), having no size, or term **molecular weight** (M_w) expressed in Da (Dalton) or in kDa are used for substances characteristics.

When describing the data determined using the **methods of visible or UV-absorption spectroscopy** one should remember that they characterize optical density. For quantitative estimation of cell density in the suspension one should use transparence (T), the scattering being accounted. In other cases the term **absorption** (A) is used, but not *extinction or optical density*.

If particular organisms (animals, plants, microorganisms) used in the research are mentioned for the first time, their full species name in Latin should be given in the paper text, following modern taxonomy; under the second mentioning the genus name should be denominated by one letter, except for the cases when genus names of different organisms begin with the same letter. Then, abbreviations of several letters are used, e.g., *Staph. aureus*, *Str. lactis*.

Word abbreviations, except for generally known ones, should not be given in Tables and Figure legends (with rare exception and then their interpretation in notes is obligatory). It is not worth giving arbitrarily abbreviated words, especially if they are brief. There is no point, for example, in abbreviating such words as peroxidase, glucosidase, etc.

• Results and Discussion

In this section one should avoid the direct repetition of the table data. The result discussion should be limited by considering the most important established facts basing on preliminary data on the problem under study. In other words, the most part of the discussion should be devoted to results interpretation.

• Conclusions (without title)

• References

References are composed due to the order of citing the sources in the text (they are denominated by digits in square brackets) and are given at the paper end. References are given in the original language without titles of journal papers, but with indicating in brief the volume, periodical issue and

pages. The titles of books (monographs, collected works, etc.) theses, author's synopses should be presented in complete form. One cannot refer to non-published materials. The number of authors being no more than four, all their names are indicated in references, if there are five or more authors, only three names are given with following et al. Works of the recent years should prevail in references (no more than 20 titles in experimental work, about 100 titles in the survey).

Examples of References

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Abbreviations for half-systematic and trivial names of chemical compounds

Nucleotides	
Adenosine-5'-mono-, di- and triphosphates	AMP, ADP, ATP
Guanisine-5'-mono-, di- and triphosphates	GMP, GDP, GTP
Ribothymisine-5'-mono-, di- and triphosphates	rTMP, rTDP, rTTP
Uridine-5'-mono-, di- and triphosphates	UMP, UDP, UTP
Cytidine-5'-mono-, di- and triphosphates	CMP, CDP, CTP
Designation of AMP isomers: 2'-AMP, 3'-AMP, 5'-AMP, 3':5'-AMP (adenosine-3':5'-monophosphate, cAMP).	
Nucleic acids	
Desoxyribonucleic acid	DNA
Complementary DNA	cDNA
Mitochondrial DNA	mtDNA
Ribonucleic acid	RNA
Mitochondrial RNA	mtRNA
Matrix (information) RNA	mRNA
Ribosomal RNA	rRNA
Transport RNA	tRNA
tRNA with designation of acceptor specificity	tRNA ^{Ala} , tRNA ₂ ^{Ala} , etc.
Aminoacylderivatives of tRNA	Ala-tRNA ^{Ala} , Glu-tRNA ^{Glu} , etc.
Others	
Diethylaminoethylenecellulose	DEAE-cellulose
Carboxymethylcellulose	CM-cellulose, CMC
Tris(hydroxymethyl) aminomethane	tris
Ethylendiaminetetraacetic acid (acetate)	EDTA
Ethylenglycoltetraacetic acid (acetate)	EGTA
Trichloroacetic acid	TCA
Polyacrylamide gel	PAAG
Coenzyme A	CoA
Sodium dodecylsulphate	SDS
Flavinadeninedinucleotide and its renewed form	FAD, FADH ₂
Nicotinamide adenine nucleotide, its oxidized and renewed forms	NAD, NAD ⁺ , NADH
Nicotinamide adenine nucleotidephosphate, its oxidized and renewed forms	NADP, NADP ⁺ , NADPH
Inorganic phosphate	P _i
Inorganic pyrophosphate	PP _i