Guidelines¹

of the Leibniz Institute for Natural Product Research and Infection Biology
– Hans Knöll Institute –

for Safeguarding Good Scientific Practice

March 1st, 2022

Preamble

Honesty and integrity of researchers is the fundamental requirement of scientific work. Good scientific practice has to be taught and trained. Every scientist is responsible for ensuring that his or her own conduct meets the standards of good scientific practice. The following guidelines for good scientific practice are intended to help promote the quality of scientific work and prevent scientific misconduct.

With this objective, the Leibniz-HKI implements the

- the Code of Conduct “Guidelines for Safeguarding Good Research Practice” of the German Research Foundation,
- the “Leibniz Code for Good Research Practice”
- the “Leibniz Guidelines for Good Scientific Practice”

as amended from time to time. On this basis, the executive board of the Leibniz Institute for Natural Product Research and Infection Biology e.V. – Hans Knöll Institute – Jena (Leibniz-HKI), after consultation with the scientists of the Leibniz-HKI, issues the following guidelines for safeguarding good scientific practice.

I. Safeguarding good scientific practice

§ 1

General information

(1) The scientists of the Leibniz-HKI carry out each step of the research process according to accepted scientific practices and state-of-art equipment and methods in the field of research ("lege artis"). When scientific findings are made publicly available (in the narrower sense in the form of publications, but also in the broader sense via other communication channels), quality assurance mechanisms are applied and documented. This applies in particular when new methods are developed.

(2) The evaluation of the performance of scientists at Leibniz-HKI follows a multi-dimensional approach. An important element reflecting scientific performance of Leibniz-HKI employees is the publication of scholarly work. Other aspects are the successful
acquisition of funding, as well as a commitment to knowledge and technology transfer, teaching, academic self-administration, and public relations.

(3) Quality and originality of work shall always take precedence over quantity in performance and evaluation criteria for the award of academic degrees, for promotions, recruitment, appointments, and resource allocations.

(4) Personal, family, or health-related periods of absence, or the resulting extension of training or qualification periods, alternative career paths or comparable circumstances shall be taken into account appropriately in the performance assessment.

§ 2 Research process and quality assurance

(1) When planning a project, researchers shall take full account of, and acknowledge, the current state of research. The identification of relevant and suitable research questions requires careful research into scientific achievements that have already been made publicly available. Leibniz-HKI provides the necessary framework to perform this task. Research must be carried out according to the latest state of knowledge. This means that knowledge of current literature and appropriate methods is mandatory. Researchers must adhere to the discipline-related recognized principles of scientific work. Ethical standards must be observed when conducting experiments.

(2) There shall be continuous quality assurance accompanying research, which shall relate in particular to compliance with discipline-specific standards and established methods, to processes such as the calibration of equipment, the collection, processing and analysis of research data, the selection and use of research software, its development and programming, and the keeping of laboratory records.

(3) The scientific work should be reproducible and the workflow should be comprehensible for others. All results are to be questioned rigorously. Before publication, a mutual critical review of the work is mandatory. Primary data and intermediate results shall be made available to others for this purpose. The source code of publicly accessible software must be persistent, citable, and documented.

(4) The scientists of the Leibniz-HKI document all information relevant for the generation of a research result as comprehensibly as is necessary and appropriate in the discipline in order to be able to verify and evaluate the result. Individual results are documented and not discarded from the outset if they do not support the research hypothesis. A selection of results does not take place in this context. Documentation and research results must not be manipulated and must be protected as best as possible against manipulation.

(5) To answer research questions, scientists at the Leibniz-HKI use scientifically sound and comprehensible methods. When developing and applying new methods, they attach particular importance to quality assurance and the establishment of standards. The application of a method usually requires specific competences, which are covered by cooperations, if necessary.

(6) Possible biases in the interpretation of findings are to be avoided through appropriate methods such as sufficient repetition and blinding of test series. If gender and diversity are significant for the research project, the respective framework conditions shall be
taken into account in the interpretation of findings. The origin of data, organisms, materials and software used in the research process will be identified and their subsequent use documented; the original sources will be cited. The type and scope of research data generated in the research process are described in accordance with the requirements of the discipline concerned.

(7) The materials and methods used as well as the results, including primary data, must be documented and retained for a period of ten years, unless other rules or regulations require longer retention. If certain materials or data are not retained, the responsible researchers shall provide comprehensible reasons for this. The storage time begins with the date on which public access was established.

(8) When the employee responsible for the scientific work leaves the institute, the documents shall be handed over to the superiors. This applies, for example, but not exclusively, to all written and electronic records, reports, protocols, algorithms and software code, calculations, data and presentations. When leaving the Leibniz-HKI, copies of laboratory journals may be made and taken along. The institute shall provide the electronic and spatial infrastructure necessary for manipulation-proof data storage, e.g. by providing electronic laboratory books.

(9) Reviewer activities, for example to assess submitted manuscripts, funding applications or the credentials of persons, must be carried out confidentially and competently. Honest conduct is the basis of the legitimacy of forming a judgement. The confidentiality of third-party content to which the reviewer or committee member gains access precludes its disclosure to third parties and its own use. Any bias must be disclosed and reported immediately to the competent body. If a reviewer’s work is completely delegated, this must be stated in writing to the commissioner of the review.

(10) Strict honesty with regard to the contributions by involved partners must be maintained.

(11) Scientific collaborations should be conducted responsibly. The management tasks are to be carried out responsibly. The participants in a research project shall engage in regular exchange. They shall define their roles and responsibilities in a suitable and appropriate manner and adjust them as necessary. An adjustment is particularly indicated if the focus of the work of one of the participants in the research project changes.

(12) The scientists of the Leibniz-HKI shall handle the constitutionally granted freedom of research responsibly. They shall take into account rights and obligations, in particular those resulting from legal requirements, but also from contracts with third parties, and, where necessary, obtain and submit approvals and ethics votes. With regard to research projects, all employees are required to conduct a thorough assessment of the research consequences and an assessment of the respective ethical aspects in consultation with the management. In doing so, they take particular account of the aspects associated with security-relevant research (dual use). Cooperation with national or international military institutions is subject to a strict case-by-case assessment and requires the approval of the executive board, which evaluates ethical and legal aspects of security-relevant research projects, their possible consequences and questions regarding cooperation partners and third-party funding sources for its decision.
(13) The legal framework of a research project also includes documented agreements on the rights of use of research data and research results arising from it. For research projects in which only members of Leibniz-HKI are involved, the relevant provisions of the institute's regulations shall apply. If members of other institutions or companies ("external partners") are involved in a research project, the cooperation shall be regulated by contract.

(14) If a scientist leaves the Leibniz-HKI, Leibniz-HKI shall, if necessary, conclude a written agreement with the person concerned or the receiving institution on the use of the research data and research materials generated by the scientist for the purposes of his or her own research and teaching. Due consideration shall be given to the legitimate claims of both parties, especially in the case of spin-offs and in the case of existing property rights.

§3
Publication of research results

(1) Scientists shall decide themselves when to publish – taking into account the practices of the discipline concerned – whether, how and in which medium they make their results publicly accessible. They shall carefully select the publication medium for the publication of research results – taking into account its quality and visibility in the respective field. Once the decision to make results publicly available has been made, researchers describe them fully and comprehensibly.

(2) In keeping with the idea of "quality before quantity", Leibniz-HKI scientists avoid inappropriately small-scale publications. They limit the repetition of the contents of their publications as (co-)authors to the extent necessary for understanding the context. They cite their results that have already been made publicly available before.

(3) Authors shall ensure and, where possible, work towards ensuring that their research contributions are labelled by publishers or service providers in such a way that they can be correctly cited by users.

(4) The scientific quality of a contribution does not depend on the publication medium in which it is made publicly accessible. In addition to publications in specialist journals and books, in particular data and software repositories as well as specialist repositories shall also be considered. A new or unknown publication organ is checked for its integrity. An important criterion in the selection decision is whether the publication body has established its own guidelines for good scientific practice.

(5) Scientists who assume the function of editors shall carefully consider for which publication bodies they accept this task. Such publication bodies shall have established a quality assurance system that is in accordance with these guidelines.

(6) If researchers have made results and research data publicly available and subsequently become aware of discrepancies or errors, they shall correct them. If the discrepancies or errors are the reason for the retraction of a publication, the researchers shall ask the corresponding publisher or infrastructure provider etc. to ensure that the correction or retraction takes place and is marked accordingly as quickly as possible. The same applies if the researchers are informed of such discrepancies or errors by third parties.
(7) As a matter of principle, scientists contribute all results to the scientific discourse and, whenever possible, adhere to the FAIR principles (Findable - Accessible - Interoperable - Re-usable). In individual cases, however, there may be reasons not to make results publicly available. The decision as to whether, when and how the results and data are made accessible must not depend on third parties. If research software developed in-house is to be made available to third parties, it shall be provided with an appropriate license.

(8) In all publications, the intellectual property of others shall be respected and all citations and excerpts must be duly referenced. The contributions of all participants shall be clearly indicated and the third-party funding sources shall be disclosed. The researchers shall provide complete and correct evidence of their own and others' preliminary work.

§ 4
Teaching, training and responsibilities

(1) All employees must be informed of the rules of good scientific practice at the beginning of their research activities at the Leibniz-HKI and must be bound by them on file. This information and commitment shall be repeated annually. The commitment to the rules of good scientific practice is part of the employment contract with the Leibniz-HKI.

(2) The rules of good scientific practice and these guidelines are an integral part of the teaching and training of early career researchers at the Leibniz-HKI, and in the assumption of teaching duties at universities. Bachelor and Master students and doctoral researchers are instructed on, and committed to, the rules of good scientific practice by their supervisors.

(3) The guidelines for safeguarding good scientific practice are published on the Leibniz-HKI homepage.

§ 5
Organization of structural units and project groups

(1) In accordance with the statutes, the management of the Leibniz-HKI shall be responsible for an appropriate institutional organizational structure in consultation with the responsible committees. The management task also includes, in particular, ensuring appropriate individual supervision of young scientists – embedded in the overall concept of the Leibniz-HKI – and promoting the professional development of the staff.

(2) Gender equality and diversity are taken into account in the selection and development of personnel. The corresponding processes are transparent (see, for example, the Gender Equality Plan of the Leibniz-HKI, appointment regulations of Friedrich Schiller University Jena, recruitment procedures of the graduate schools) and avoid, as far as possible, unconscious bias.

(3) Scientists as well as science-supporting staff shall enjoy a relationship of support and personal responsibility appropriate to their career level. They are granted adequate status with corresponding rights of participation. They are enabled and encouraged to shape their careers through increasing autonomy.
(4) Heads of the structural units (departments, research groups, junior research groups, cross-sectional units, associated groups) and project groups have the responsibility to
- define research focuses,
- set workflows and their control,
- create work programs for doctoral researchers and Bachelor and Master students and give instructions for scientific work,
- conduct regular laboratory meetings with reports by the scientific co-workers, doctoral researchers and Bachelor and Master students
- promote the career of the scientific and technical personnel.

Scientific co-workers, technical staff, doctoral researchers and Bachelor and Master students are only permitted to share methods and results to third parties with the explicit permission of the head of the structural unit or project group.

(5) Abuse of power and exploitation of relationships of dependency shall be prevented by appropriate organizational measures both at the level of the structural units and project groups and at the level of the management of Leibniz-HKI.

(6) In all questions of scientific objective, publication or exploitation of research results, members of a structural unit or project group are subject to the instructions of the head of the structural unit or project group. The heads of the structural units or project groups are subject to the instructions of the Leibniz-HKI executive board.

§ 6
Authorship on scientific publications

(1) If several persons are involved in a research project or in the drafting of a scientific report, only those persons may be named as co-authors who have made a significant contribution to the question, the research plan, the research work, the evaluation or interpretation of the results and the draft or critical revision of the manuscript. This also includes the scientific instruction of employees of the structural unit. A so-called honorary authorship is not permitted. If a contribution is not sufficient to justify authorship, this support can be appropriately acknowledged in footnotes, in the preface or in the acknowledgement.

(2) Should a co-author feel left out, according to § 10, 11 he/she can call the ombudsperson. Co-authorship cannot be based solely on technical participation in data collection, nor on the provision of financial resources or the general management of the structural unit in which the research was conducted. The same applies for reading the manuscript without substantially contributing to its content.

(3) If unpublished observations or data of other persons are cited or observations or data of other institutions are used in a publication, their written consent must be obtained.

(4) All manuscripts and data intended for publication must be submitted by the employees to the head of the structural unit before submission or dissemination.
(5) The heads of the structural units check all data intended for publication for the existence of inventions. They are advised to consult with the patent office of the institute on this matter. The existence of an invention obliges the inventors to report the invention to the executive board.

(6) The head of the structural unit or the corresponding author, respectively, is responsible for presenting the final manuscript or conference presentation to all co-authors before submission. This also applies to a resubmission following revision or new submission to another publication body.

(7) Ahead of publishing, the head of the structural unit or the corresponding author must obtain a written release of the manuscript by the Leibniz-HKI executive board. The release can be made in writing or electronically. The release requirement does not apply to conference-only contributions.

(8) Through agreement to be named as co-author, one takes over joint responsibility that the co-authored publication adheres to scientific standards. This particularly applies to the section to which the co-author has contributed. He/she is responsible for the correctness of the contribution as well as for it being reflected in the publication in the correct manner. The corresponding author is responsible for the main statement of the publication.

(9) Without sufficient reason, a required consent to the publication of results may not be refused. The refusal of consent must be justified with a verifiable criticism of data, methods or results.

§ 7

Early career scientists

(1) Early career scientists begin to work scientifically with their Bachelor's, Master's and/or doctoral thesis. In addition to technical skills, the supervisors at the Leibniz-HKI must teach them an ethical attitude in their scientific work, in their responsible handling of results and in their cooperation with other scientists.

(2) Early career scientists are entitled to regular scientific supervision, advice and support by the person leading the structural unit or project group.

(3) Bachelor and Master students as well as doctoral researchers have the same rights and obligations to ensure good scientific practice as other scientists, as set out in these guidelines. They are obliged to follow the guidelines for safeguarding good scientific practice mentioned in §§ 1-3. They are committed to collegiality, to regular reports on the progress of their research, to participation in internal seminars and to a limited extent to collaboration in routine tasks of the structural unit or project group.
II. Procedure when scientific misconduct is suspected

§ 8
Scientific misconduct

(1) Scientific misconduct occurs when scientists deliberately or grossly negligently make false statements in the field of science, violate the intellectual property of others or seriously impair their research activities. The same applies correspondingly to technical staff.

(2) Scientific misconduct includes in particular false statements, namely
   - inventing data,
   - falsifying data, diagrams, or images,
   - selecting and dismissing unwanted results without disclosure,
   - manipulation of experimental results (e.g. by deliberately using special but undisclosed experimental conditions),
   - inaccurate information in a letter of application or grant proposal (including inaccurate information on the publication body and on publications accepted or in print),
   - multiple publication of data or texts without disclosure.

(3) Scientific misconduct includes also infringement of intellectual property rights with regard to a legally protected work created by another party, or to another party's substantial scientific findings, hypotheses, models or research approaches by:
   - the unauthorized utilization under presumption of authorship (plagiarism),
   - the exploitation of research approaches and ideas of others without consent, in particular as reviewer and/or expert (theft of ideas),
   - the untruthful claim to or unjustified acceptance of scientific authorship or co-authorship, as well as the refusal of a justified co-authorship to the co-author,
   - the falsification of content,
   - the unauthorized publication of, and provision of access to third parties, of a work, finding, hypothesis, model or research approach that has not yet been lawfully published.

(4) Scientific misconduct is further:
   - breach of trust as reviewer or supervisor, as well as violation of § 2 (9),
   - violation of the publication rules (§ 6), in particular § 6 (4) and § 6 (7),
   - violation of the obligation for data storage according to § 2 (7, 8). This also applies to unlawful failure to destroy data (in particular personal data),
- severely impairing the research activities of others, including damaging, destroying or manipulating research set-ups, devices, documents, hardware, software, chemicals or any other materials required by another party for conducting an experiment,
- maliciously altering or removing data records,
- intentionally making scientifically relevant data storage media unusable
- deliberately pretending to implement or use quality control measures and procedures (e.g. peer review).

§ 9
Joint responsibility for scientific misconduct

Joint responsibility for scientific misconduct according to § 8 can result from
- active participation in the misconduct of others,
- having knowledge of falsifications committed by others,
- being a co-author of knowingly falsified publications, or
- gross neglect of supervisory duties.

§ 10
Procedure for dealing with allegations of scientific misconduct

(1) The procedure for the investigation into accusations of scientific misconduct is initiated by a report of the suspicion (§ 11) and is carried out by the ombudsperson (§ 12) and – if necessary – by a commission for the investigation of scientific misconduct (§§ 13-15) and the Leibniz-HKI executive board (§ 16).

(2) The investigation of allegations of scientific misconduct shall be conducted expressly with due regard for confidentiality and the fundamental principle of the presumption of innocence.

(3) The confidentiality of a procedure shall be restricted if the whistleblower makes the suspicion public. The investigating body shall decide on a case-by-case basis how to deal with a breach of confidentiality by the whistleblower. The whistleblower shall also be protected in the case of unproven scientific misconduct, unless it can be proven that the report of the allegations was made against better knowledge.

(4) The employees of the Leibniz-HKI are obliged to cooperate when requested to do so.

(5) The procedure does not replace other procedures regulated by law or by the statutes.

§ 11
Report of suspected scientific misconduct

(1) If individual scientists of the Leibniz-HKI have a concrete suspicion of scientific misconduct, they must immediately inform an ombudsperson (§ 12) in the form of a report of the suspicion.
(2) The report of suspicion shall be made in writing, stating the incriminating facts and evidence. A report made anonymously can only be reviewed in proceedings if the person making the report provides the ombudsperson investigating the suspicion with reliable and sufficiently concrete facts.

(3) The report of suspicion must be made in good faith. Consciously incorrect or deliberately made accusations may themselves constitute scientific misconduct. Neither the person making the report nor the person affected by the allegations should suffer any disadvantages for their own scientific or professional progress as a result of the report.

(4) Reports should not – especially in the case of early career scientists – lead to delays during the qualification of the whistleblower, and the preparation of theses and doctorates should not be disadvantaged. This also applies to working conditions and possible contract extensions.

(5) The ombudsperson informs the concerned person and investigates the allegations. If these allegations cannot be dispelled, the ombudsperson may request that the structural units concerned conduct their own investigations. All employees of the concerned structural units are obligated to cooperate. One or several statements summarizing the result(s) of these investigations must be submitted in writing to the ombudsperson within 4 weeks.

(6) If the investigations mentioned above in (5) do not lead to dispelling of the allegations, the ombudsperson applies to the executive board for the formation of a commission for the investigation of scientific misconduct according to §13 (1).

(7) If the ombudsperson decides in the course of the proceedings that a further investigation of the allegations is necessary, the case will be forwarded to the central ombudsperson of the Leibniz Association or – if members or employees of the Friedrich Schiller University Jena are involved – to an impartial mediator of the Friedrich Schiller University Jena.

(8) Confidentiality for the protection of informing and affected persons must be maintained. Without the express consent of the informers, their names may not be disclosed to the parties concerned at this stage of the procedure; this does not preclude a consensual confrontation.

§ 12 Ombudsperson

(1) The Leibniz-HKI shall appoint two ombudspersons as contact persons for employees of the Leibniz-HKI who have allegations of scientific misconduct to bring forward. The ombudspersons shall work together and shall each have the right of individual representation.

(2) Scientists who have an employment contract with the Leibniz-HKI and many years of experience in the scientific field as well as national and international scientific contacts shall be appointed as ombudspersons. The ombudspersons may not be members of a central management body of the Leibniz-HKI during their term of this office.
(3) The appointment is made by the executive board of the Leibniz-HKI after consultation with the heads of the structural units represented on the Institute Council and the representatives of the professional groups. The term of office is three years, a one-time re-appointment is possible.

(4) The names and contact details of the ombudspersons appointed are published on the Leibniz-HKI website.

(5) The ombudspersons shall receive the necessary substantive support and acceptance from the executive board of the Leibniz-HKI in the performance of their duties.

(6) The ombudsperson has the following duties:

   - As person of trust, he/she advises those employees of the Leibniz-HKI who inform them about scientific misconduct within the meaning of § 8.
   - He/she examines whether the allegations are plausible in terms of concreteness and significance as well as possible motives, and clarifies whether there are possibilities to dispel the allegations.
   - If the allegations cannot be dispelled, the ombudsperson asks the executive board to set up a commission for the investigation of scientific misconduct (§ 13) and informs the heads of the structural units concerned.
   - The ombudsperson is obliged to document his/her action taking into account the protection of the privacy of the informing and the affected persons.

(7) Every employee of the Leibniz-HKI has the right to speak to an ombudsperson on short notice.

(8) The ombudsperson shall be replaced by the other ombudsperson in the event that he or she is biased or prevented from acting. If both ombudspersons are biased or unable to represent each other, those seeking advice or making a complaint have the right to choose between the central ombudsman board of the Leibniz Association and the "Ombudsman for Science" board of the DFG.

(9) If an ombudsperson is not in a position to reliably fulfil his/her duties in the long term or if confidence in the proper fulfilment of duties is no longer given, he/she may be removed from office if at least two thirds of the scientists of Leibniz-HKI agree. The ombudsperson must be heard before a decision is made to remove her from office.

§ 13
Appointment of the commission for the investigation of scientific misconduct

(1) The executive board appoints ad hoc a commission for the investigation of scientific misconduct after consultation with the heads of the structural units.

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2 The "Ombudsman for Science" (Ombudsman für die Wissenschaft) is a body set up by the German Research Foundation (DFG) to assist all scientists in Germany with questions and conflicts concerning good scientific practice (GSP) or scientific integrity. The ombudsman is supported in its counsel and conflict mediation by an office in Berlin. https://ombudsman-fuer-die-wissenschaft.de
(2) The following persons belong to the commission
   - three scientists,
   - the ombudspersons as guests with advisory function.

(3) The commission shall act at the request of the ombudsperson or one of its members.

§ 14
Procedure of the commission for the investigation of scientific misconduct

(1) The commission shall elect a chairperson and a vice-chairperson from among its members. The chairperson – or in case he/she is absent, the vice-chairperson – shall invite the commission members to the meetings, shall chair the meetings and shall execute the decisions.

(2) The commission has the quorum if at least two members or deputy members are present. The commission shall act by a simple majority. Minutes shall be taken of each meeting to record the main outcome of the meeting.

(3) The commission may involve other persons in an advisory capacity.

(4) The commission shall organize its work in such a way as to ensure a rapid procedure.

§ 15
Tasks of the commission for the investigation of scientific misconduct

(1) The commission takes over the results of the investigation pursuant to § 11 (5) from the ombudsperson and decides on the further procedure. The commission may discontinue the proceedings, in particular it may do so upon a justified request of the informing person, or it may initiate further investigations or submit a basis for decision to the management.

(2) The commission shall not deliberate in public.

(3) The persons concerned shall be heard at their request. They can each call in one person they trust to support them. This also applies to other persons to be heard.

(4) The commission may communicate the names of the persons providing information to the parties concerned. The informing persons must be informed of the disclosure in advance.

(5) If the commission considers scientific misconduct to be proven, it shall report in writing to the executive board of the Leibniz-HKI on the outcome of its investigations and propose how the procedure should be continued – also with regard to the protection of the rights of others. This report shall also be submitted to the persons concerned and the persons providing information.

(6) The files shall be kept for 10 years.

(7) Informing persons shall be protected against discrimination. Intentional false accusations can be prosecuted.
§ 16
Decisions of the executive board

(1) The executive board shall examine recommendations of the commission on the sanctioning of scientific misconduct and decide on further action. The executive board informs the commission for the investigation of scientific misconduct about this decision.

(2) If the person concerned is employed by the Leibniz-HKI, the following consequences under labor law may be considered in the event of scientific misconduct:

1. warning letter,
2. extraordinary termination (including termination on grounds of suspicion),
3. ordinary termination,
4. dissolution of the contract.

(3) The following consequences under civil law are particularly relevant in the event of scientific misconduct:

1. issuing a house ban,
2. claims for restitution against those affected (e.g. with regard to stolen material),
3. claims for removal and injunctive relief from copyright, personal rights, patent law and competition law,
4. claims for repayment (e.g. of scholarships, third-party funds),
5. claims for damages by the Leibniz-HKI or third parties in the event of personal injury, property damage or the like.

(4) The executive board may transfer the procedure to the responsible university for the execution of academic consequences.

(5) In the event of criminal misconduct, the management will file a complaint.

(6) If the suspicion of scientific misconduct was wrongly raised, the executive board provides for a rehabilitation of the accused person(s).

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