# Sanquin Research Code

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## FOREWORD

This version of the Research code has been updated based on new legislation and regulations, experiences with the initial version and internal Sanquin guidelines and SOPs.

This research code provides researchers within Sanquin with aids for identifying the applicable legislation, regulations, and related internal procedures.
Additionally, a brief commentary on a number of topics has been added in order to make it clear to external parties how researchers within Sanquin deal with the issues described.

The document was discussed during the following meetings:

- Management Team Research on 23 June 2009
- Board of Directors: on 24 June 2009 and 29 July 2009
- Discussion between ombudsman – director of Research
- Management Team Research on 8 September 2009
- Works Council on 10 November 2009 and 8 December 2009; approval on 17 December 2009

The document was adopted by the Board of Directors on 16 March 2010. It will apply from 1 April 2010 at the latest, but at the earliest possible date.

## DEFINITIONS AND ABBREVIATIONS

| TERM | DESCRIPTION |
|---|---|
| FNU | Federation of University Hospitals in The Nethelrands |
| LOWI | National Body for Scientific Integrity of the KNAW, VSNU and NWO |
| KNAW | Royal Dutch Academy of Arts and Sciences |
| NWO | Netherlands Organisation for Scientific Research |
| SOP | Standard Operating Procedure |
| VSNU | Association of Universities |

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## 1. Changes from the previous edition

1.1 The following paragraphs have been removed:

| Previous version | New version |
|---|---|
| | None. |

1.2 The following paragraphs have been modified:

| Previous version | New version |
|---|---|
| | Chapter 1 has been modified based on the new chapters. |
| Paragraph 7.5.6. | Paragraph 8.5.6 was modified based on current practice. |

1.3 The following paragraphs have been added:

| Previous version | New version |
|---|---|
| | Chapters 2 through 6 are new. |

## 2. Introduction

2.1 Introduction

2.1.1 This guideline was written for employees performing or involved in scientific research. The Guideline aims to promote scientific research conducted according to generally accepted norms for scientific behaviour. Particular attention is given to how violations of these norms should be handled.

2.1.2 This Guideline follows the 'Scientific Research memorandum, dilemmas and temptations', addressing the issue on norms for scientific research, published by the Royal Dutch Academy of Arts and Sciences (KNAW). The memorandum 'Netherlands Code of Conduct for Performing Scientific Research: Principles of good scientific education and research' by the Association of Universities in The Netherlands (VSNU) was also followed, to which we refer to in chapter 3, with the understanding that - given that incidental research benefiting Sanquin's or external clients' business interests is not always viewed as science – the results of such research are not always reported in publicly accessible literature.

2.1.3 The chapter on the Ombudsman for science and Sanquin is largely drawn from the corresponding section of the AMC research code 'Independence in science' (Reviewed edition) 2004. The rest of the text gratefully draws from this AMC Research code and from the UMCG Research code.

2.2 Structure

2.2.1 This code first addresses internal rules for supervising young researchers. Subsequently, Sanquin rules based on legislation regarding research with human subjects, animals and genetically modified organisms are examined, also looking at national legislation and regulations. Subsequently, valorisation, intellectual property rights, cooperation with the industry and the right to publish research results are examined. Finally, within the context of violation of scientific integrity, the position of the ombudsman regulation is outlined.

## 3. Good mentorship

3.1 Role of the supervisor:

3.1.1 A great deal of the research is conducted by young researchers, students and technicians working under the supervision of more experienced, often post-doctoral researchers, with the Principal Investigators bearing final responsibility. Solid supervision of young researchers is part of good science. The rules for supervising these researchers are outlined in a number of procedures.

3.1.2 The following internal documents apply:

1. Codes of conduct for Sanquin laboratories (@0143)
2. Guidelines for recording research data (@1732)
3. Conducting PhD research at Sanquin (@4708)
4. Working with Higher and Secondary Vocational Education interns (@4941)
5. Working with students within Sanquin Research (@4180)

3.2 Managing a project

3.2.1 In addition to supervising less experienced researchers, correct project management is also part of the correct performance of scientific research. There are written and unwritten rules about this within Sanquin, which dictate both the content and financial justification of a project.

3.2.2 The following internal documents apply:

1. Applying for and managing a project (@4181)
2. Release, use and archiving of laboratory journals (@1752)
3. Writing and submitting a scientific manuscript (@4075)
4. Archiving guideline (in progress)

## 4. Respect for donors, study subjects, patients and test animals

4.1 Donors

4.1.1 Sanquin holds the unique position that it can make use of (blood donations from) unpaid donors. Donors can indicate whether they consent to (remaining materials from) their donation being used for scientific research benefiting the blood supply on the assessment and collection form. Additionally, donors may also sometimes be asked to take part in scientific research via questionnaires or by giving (additional) blood for specific testing.

4.1.2 In a number of cases, this specific testing falls under the Medical Research Involving Human Subjects Act (WMO) and the corresponding external review procedure will be followed. In other cases, consent should be obtained in advance from the Sanquin Ethics Advisory Council. Every researcher is personally responsible for adhering to these rules, as outlined in relevant Sanquin regulations.

4.1.3 The following internal documents apply:

1. Submitting research proposals with the Ethics Advisory Council (in progress)

4.2 Scientific research with human subjects

4.2.1 For all scientific research, respect for people and the rights of study subjects/participants in scientific research should be upheld. Every researcher is personally responsible for adhering to these rules, as outlined in relevant legislation, Sanquin regulations and various (national) codes of conduct published on the subject.

4.2.2 Although Sanquin does not treat any patients itself, and always conducts clinical research in cooperation with treating physicians, Sanquin offers its employees the opportunity to follow a course in accordance with FNU qualifying terms, as outlined in the memorandum 'Research involving human subjects at university hospitals: Well organised!'

4.2.3 In consultation with the research policy staff member, researchers register all clinical trials at clinicaltrials.gov, in accordance with the declaration of the International Committee of Medical Journal Editors.

4.2.4 The following external documents apply:

1. Individual Health Care Professions Act (BIG Act).
2. Dutch Medical Treatment Act (WGBO)
3. Scientific Research Involving Human Subjects Act (WMO)
4. Scientific Research with Medicinal Products Regulation
5. Declaration of Helsinki
6. Dutch Personal Data Protection Act (Wbp)
7. Research involving Human Subjects in University Hospitals: Well organised, FNU
8. Qualifying terms, basic course on Regulations and Organisation of Clinical Scientific Research, FNU

4.2.5 The following internal document applies:

1. SOP: Scientific Research with Body Material (@4744)

4.3 Scientific Research with Body Material

4.3.1 Researchers performing scientific research with bodily materials should be aware of the source of this material. Once again, every researcher is personally responsible for adhering to the rules outlined in relevant legislation, Sanquin regulations and various (national) codes of conduct published on the subject. 'Remaining material' from donations may be used for research and is not covered by the WMO; however, this material is also provided by unpaid donors. Therefore, this material is also covered by the guideline 'Blood products not for transfusion'.

4.3.2 The following external documents apply:

1. Blood Supply Act (Wibv)
2. Dutch Medical Treatment Act (WGBMO)
3. Safety and Quality of Body Material Act (Wvkl)
4. Scientific Research Involving Human Subjects Act (WMO)

4.3.3 The following internal documents apply:

1. Making available blood products, including interim and rest products for non-transfusion purposes (UT10.001.SOP.SQ)
2. SOP: Scientific Research with Body Material (@4744)
3. SOP Working with biological material (@5002)

4.4 Scientific research with (sensitive personal) data

4.4.1 Within the Sanquin research programme, personal donor data and patient data are used. This is particularly the case for epidemiological and social science donor research. Sanquin adheres to applicable legislation and regulations in this context.

4.4.2 The following external documents apply:

1. Dutch Personal Data Protection Act (Wbp)
2. Dutch Medical Treatment Act (WGBMO)
3. Use of the social security number (BSN) in scientific research with data, KNAW
4. Access to data from public and semi-public databases for scientific research, KNAW
5. Code of conduct for the use of personal data in scientific research, VSNU

4.4.3 The following internal document applies:

1. DZ001.RL.SQ RL Privacy protection

4.5 Respect for laboratory animals

**4.5.1** Where there are no alternatives, Sanquin uses laboratory animals for its research. Sanquin has a license issued by the Ministry of Health, Welfare and Sport (VWS) for these activities. Of course, Sanquin adheres to applicable legislation and regulations. Sanquin uses an independent Animal Experiments Committee (DEC), namely that of the neighbouring Dutch Cancer Institute (NKI) for approval of animal testing protocols. Sanquin also reports annually on the use of test animals to the Ministry of Health, Welfare and Sport. Sanquin strives to reduce, refine and replace animal testing wherever possible and also conducts research into alternatives for animal testing in the pharmaceutical process. Employees within Sanquin who work with test animals are trained and accredited by the government, meeting the conditions set in articles 9, 12 and 14 in the Laboratory Animal Act. Sanquin adheres to the Codes of Practice drafted upon request of the government.

**4.5.2** The following external documents apply:

1. Laborary Animal Act and the underlying use of laborator Animal Decision
2. DEC NKI Application Procedure
3. *Use of laboratory Animals Transparency Code of Practice (in progress)*
4. Code of Practice: use of laboratory animals in cancer research, Food and Consumer Product Safety Inspectorate
5. Code of Practice of Immunisation of laboratory animals, Food and Consumer Product Safety Authority
6. Code of Practice: laboratory animal welfare monitoring, Food and Consumer Product Safety Inspectorate

4.6 Genetically modified organisms (GGO)

4.6.1 GGOs are considered environmentally hazardous substances. The Environmental Management Act (Wm) includes the GGO Ruling. This ruling outlines the conditions under which GGO activities should be conducted. Additionally, permission should be obtained for the use of rooms specially designed for working with GGOs. The License Sanquin has obtained within the framework of the Environmental Management Act states that Sanquin has a number of such rooms. GGOs can also be or contain biological agents. In such cases, working with them also falls under Health and Safety legislation. If the GGO is an animal or the GGOs are introduced into animals, legislation relating to keeping animals and conducting experiments with them also applies. Sanquin adheres to applicable legislation and regulations and trains employees who work with GGOs.

4.6.2 The following external documents apply:

1. GGO Ruling (Wm)
2. GGO Regulation and Guidelines relating to this regulation
3. Health and Safety Ruling and Policy Rules

4.6.3 The following internal documents apply:

1. Working with Genetically modified organisms (@3465)
2. GGO projects and employees (@3456)
3. Incidents with GGOs (@3458)

## 5. Publishing research results

5.1.1 Publishing the results of research is the most important mode of scientific discourse. Sanquin ensures a careful treatment of screening of research data and the way in which these are released via publications – orally or in writing.

5.1.2 The following external documents apply:

1. Scientific Integrity Memorandum, LOWI
2. Scientific research: dilemmas and temptations, KNAW

5.1.3 The following internal document applies:

1. Writing and submitting a scientific manuscript (@4075)

## 6. Intellectual property and contracted research

6.1.1 Through research and development activities, Sanquin employees contribute to knowledge that may be patentable or licensable. This includes development work within the divisions and contracted research for both own divisions and third parties. Sanquin assumes the possibility for publication for all scientific research conducted, only in a few cases can this principle be deviated from via postponement or not publishing, at the discretion of the Division Director(s) in charge. In case of contracted research, agreements in this regard are part of the contract.

6.1.2 When making initial agreements with contract partners, it is important certain knowledge be treated confidentially. In many cases, a non-disclosure agreement will be signed.

6.1.3 Sanquin employees are stimulated to, in addition to publishing research results in scientific and trade journals, also patent their findings. Based on the model used by the universities, Sanquin has created an incentives policy to this end.

6.1.4 The following external document applies:

1. Dutch Code of Conduct for the Performance of Science, VSNU

6.1.5 The following internal documents apply:

1. Organisation and management in contracted research projects (@2921)
2. Entering into a non-disclosure agreement (@2922)
3. Entering into a Material Transfer Agreement (@2923)
4. Rewarding patent applications and distribution of patent revenues (OO31.001.SOP.SQ)
5. Handling patent applications rewards (@6365)

## 7. Internet and intranet sites

7.1.1 External documents referred to in this regulation are available from a specially created internet site, as well as via an intranet site that also contains Internal documents (SOPs and guidelines) referred to in this regulation.

7.1.2 The research staff employee is responsible for keeping these sites updated.

## 8. Scientific integrity: Professional scientific activity/refraining from violation

8.1.1 The actions and omissions of Sanquin employees are informed by the Sanquin Code of Conduct and Sanquin Guidelines and SOPs, such as the Privacy Protection Guidelines, the Guideline ‘Making available blood products, including interim and rest products for non-transfusion purposes’ and the SOP ‘Handling of operationally sensitive information in (publication of) scientific research' as well as by, if they are involved in scientific research, the general principles of good scientific education and research as outlined in the Dutch Code of Conduct for the Performance of Science.

8.1.2 Sanquin employees involved in scientific research will refrain from all forms of violation of scientific integrity as described in the Code of Conduct for the Performance of Science mentioned under 3.1.1.

8.1.3 All Sanquin employees involved in scientific research bear responsibility for ensuring research is conducted in accordance with applicable rules and preventing irregularities.

- Researchers are personal responsible for the careful and precise performance of their research, in accordance with applicable SOPs and guidelines. This applies to literature research, setting up and performing experiments or observations as well as reporting. Researcher responsibility also extends to the activities of supporting technical and administrative staff. It is important to strive for completeness in reporting. This means the relevant results are described and justifications are noted for those left out.
- Researchers should promote scientific competition which provides a positive stimulus to research.

8.1.4 The HRM department of the division ensures that individuals other than Sanquin employees involved in research (such as seconded individuals, individuals with a hospitality declaration, etc.) declare - in writing - that they will adhere to this guideline upon signing their (internship) agreement/hospitality agreement.

8.2 Research Ombudsman

8.2.1 Sanquin has a research ombudsman, referred to further as 'ombudsman' in this Guideline. He is appointed by the Board of Directors.

8.2.2 The regulation below regarding the ombudsman is based on the regulation on the topic which is part of the AMC research code 'Independence in science'.

8.3 The position of the ombudsman

8.3.1 The ombudsman is independent. The ombudsman is free to work as he sees fit, following the 'procedure to follow when making a report' as a guideline. The ombudsman refrains from commenting on areas for which specific legally outlined complaints procedures are in place (for example the procedure with the Personal Data Protection Board in the event of violation of privacy, and issues that fall under the purview of a Medical Ethics Review Committee).

8.3.2 The ombudsman’s task is to investigate reports of (supposed) scientific misconduct by one or more persons directly or indirectly involved in scientific research within the Sanquin organisation. Additionally, the ombudsman may, if requested to do so by Sanquin employees, advise on good scientific behaviour.

8.3.3 The ombudsman's ruling has no legal standing, unless the Board of Directors decides to institute legal proceedings based on a ruling of severe scientific misconduct.

8.4 The report

8.4.1 Anonymous reports will not be taken under consideration.
8.4.2 A report may only relate to a Sanquin employee involved in scientific research or an individual who has signed the declaration mentioned under 8.1.4.
8.4.3 A report relates to (suspected) scientific misconduct as defined under 8.1.3 in this Guideline.
8.4.4 Reports may relate to incidents or actions that took place no more than 5 years earlier.
8.4.5 Maximum care is observed by the ombudsman with regard to both the reporting party and the individual the report pertains to.

8.5 Procedure to follow when filing a report

8.5.1 Reports should be filed with the ombudsman in writing, or recorded in writing jointly by the reporting party and ombudsman. The ombudsman may be contacted via: e-mail: ombudsman@Sanquin.nl.
8.5.2 The ombudsman allows the reporting party to comment on his report orally.
8.5.3 The ombudsman himself decides whether the report warrants further investigation. If the ombudsman decides not to follow up on the report, he will inform the reporting party. These reports are registered for the ombudsman’s annual report, in accordance with article 8.6.1.
8.5.4 The ombudsman will hear all parties involved.
8.5.5 The ombudsman may, depending on the nature of the report, the parties involved and the circumstances involved:

1. Focus the investigation on ruling on whether scientific misconduct has occurred, as defined under 8.1.3 of this Guideline.
2. Focus the investigation on finding a solution that is acceptable to the parties involved and suitable within the context of this Guideline; the reports are registered for the annual ombudsman report in accordance with article 8.6.1.

8.5.6 Except in simple cases, the ombudsman will receive support from one or two advisors with expertise in the area in question.
8.5.7 If the ombudsman is personally involved in the incident in any way, the ombudsman will refer the case to the Board of Directors.
8.5.8 Every Sanquin employee and any party who has signed a declaration as defined under 8.1.4 is required to cooperate with any investigations conducted by the ombudsman as soon as the request is made.
8.5.9 The reporting party, the individual the report relates to and the individual supporting the activities of the ombudsman in any way are required to maintain confidentiality on the matter as well as on the ombudsman's findings, unless the Board of Directors releases them of this responsibility.
8.5.10 If the investigation initiated by the ombudsman is focused on providing a ruling and leads to the conclusion that there was no scientific misconduct, the ombudsman informs the reporting party as well as, if relevant, the party the report applies to; these reports are registered for the annual ombudsman report in accordance with article 8.6.1.
8.5.11 If the investigation initiated by the ombudsman is focused on providing a ruling and leads to the conclusion that there was scientific misconduct, the ombudsman informs the reporting party as well as the party the report applies to.
8.5.12 If the investigation initiated by the ombudsman is focused on providing a ruling and leads to the conclusion that there was severe scientific misconduct, the ombudsman also informs the Board of Directors; the ombudsman can include recommendations on actions to be taken in his report to the Board of Directors.
8.5.13 The ombudsman informs the Board of Directors if he feels a conscious attempt was made to abuse the option to file a report.

8.6 Justification

8.6.1 The ombudsman files a confidential report with the Board of Directors annually for discussion. In this report, the ombudsman provides insight into the number and nature of reports and actions taken in an anonymised fashion. The Board of Directors will forward this report to the Works Council for confidential review.

8.7 Ruling by the Board of Directors / National Body for Scientific Integrity

8.7.1 Having reviewed the ombudsman's advice, the Board of Directors will rule on whether it is also of the opinion serious scientific misconduct has occurred and on the measures that will be taken within a reasonable term.

8.7.2 The Board of Directors will inform stakeholders of its ruling and point out the possibility for requesting an opinion (on the contents of the ruling or the followed procedure) from the National Body for Scientific Integrity (LOWI[1]), as outlined in the Regulations of the National Body for Scientific Integrity, dated April 2003, see http://www.knaw.nl/.

8.7.3 The Board of Directors may, before issuing a final ruling as defined under 8.7.1., also consult with the LOWI regarding its planned ruling.

8.7.4 The Board of Directors will issue a final ruling within a reasonable term after receiving the recommendation from the LOWI. The Board of Directors will inform all involved parties and the LOWI of this ruling.

## 9. References

9.1.1 An overview of current versions of all applicable codes, legislation and regulations and Sanquin quality documents is available on the Sanquin intranet site under ‘research code’. This page links to current versions of these documents wherever possible.

[1] The National Body for Scientific Integrity: Executive Secretary Mr. D. de Hen, telephone 020-5510703, e-mail address dirk.de.hen@bureau.knaw.nl.