ASCERTAINMENT, DIAGNOSTIC EVALUATION AND GENE MAPPING OF SOUTH AUSTRALIAN FAMILIES WITH POSSIBLE X-LINKED MENTAL RETARDATION

By

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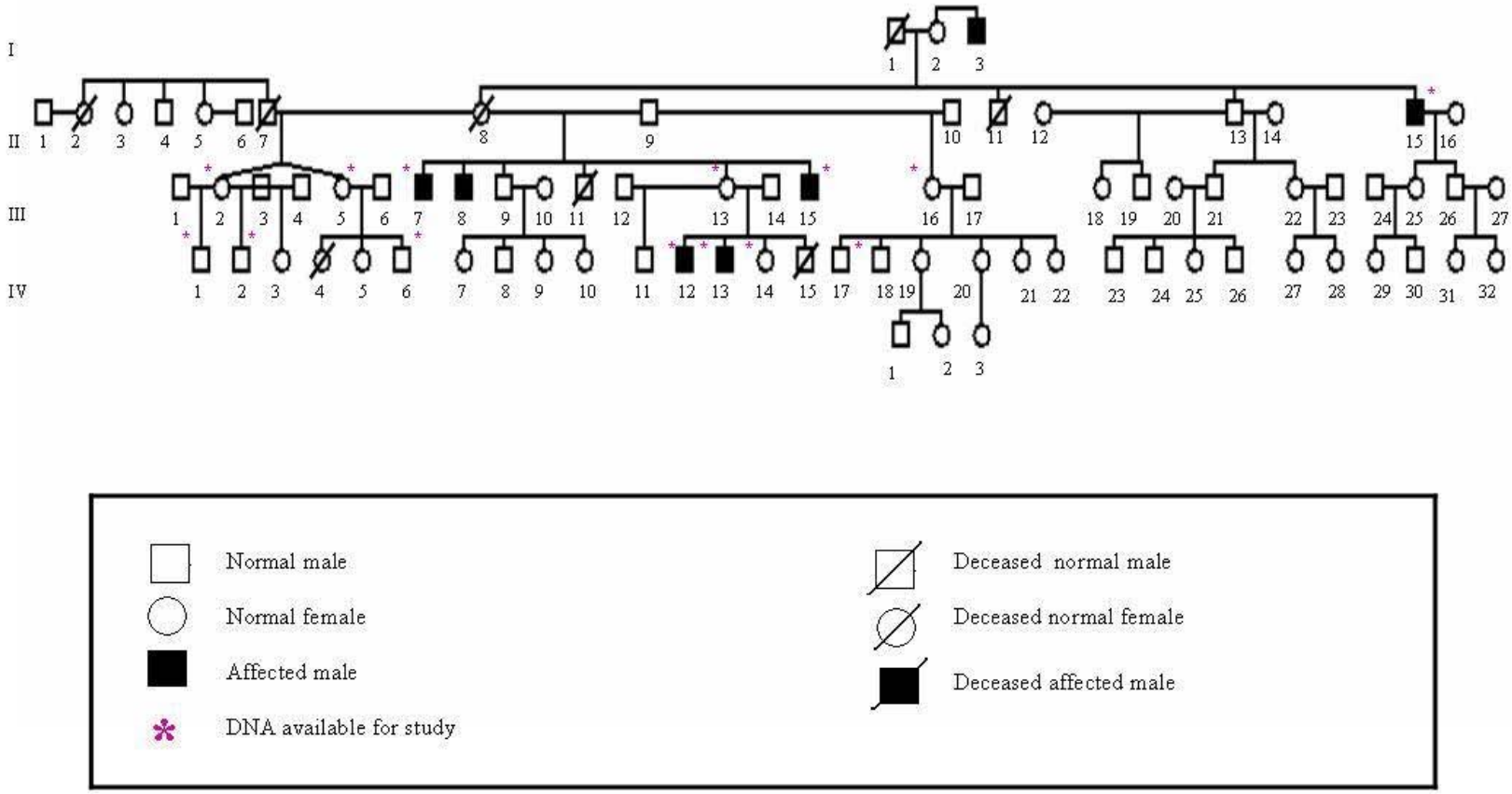
Appendices

Appendix 1 GOLD SA XLMR pedigrees

Pedigree 1 – Family GOLD SA 1



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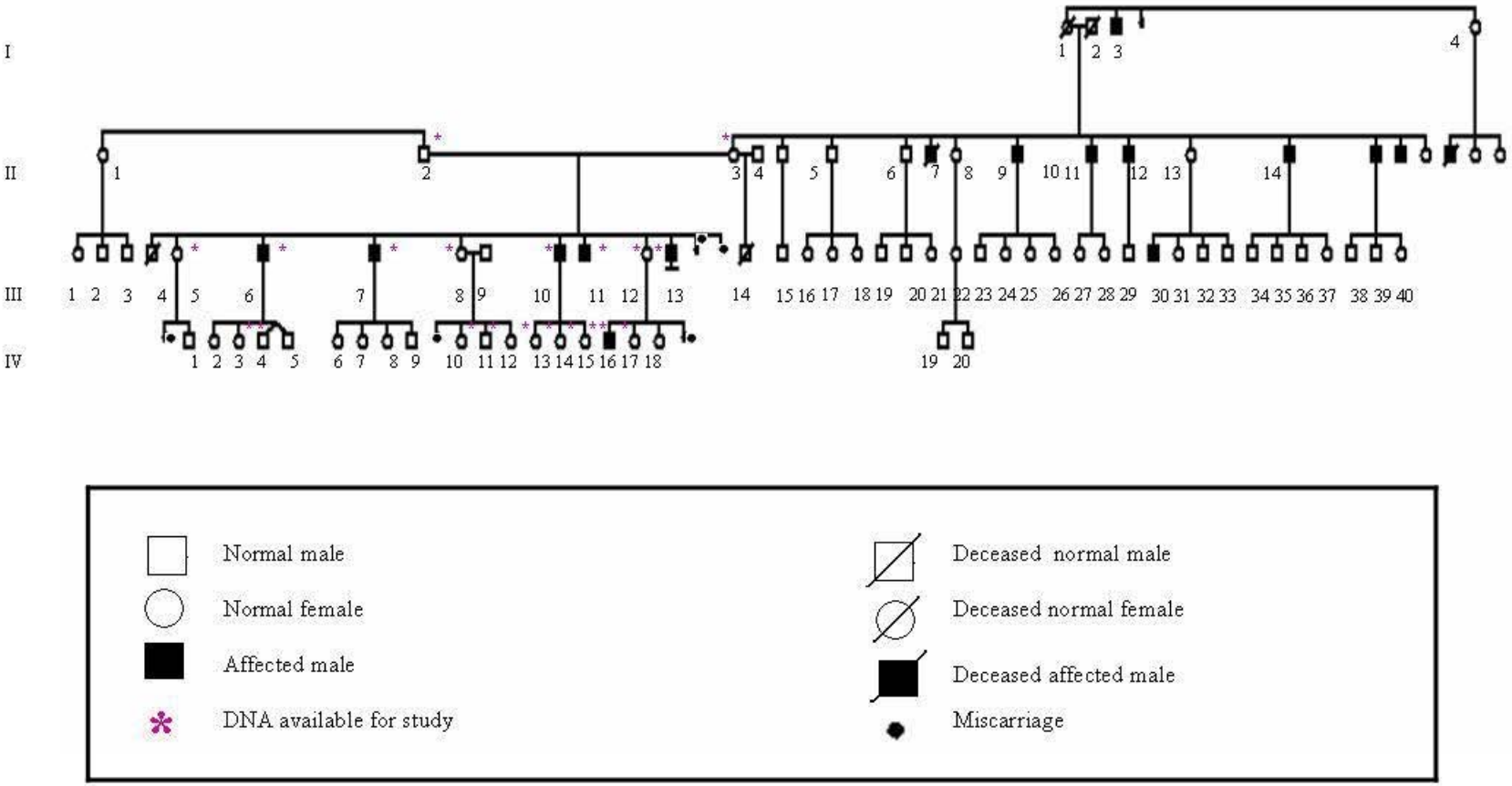

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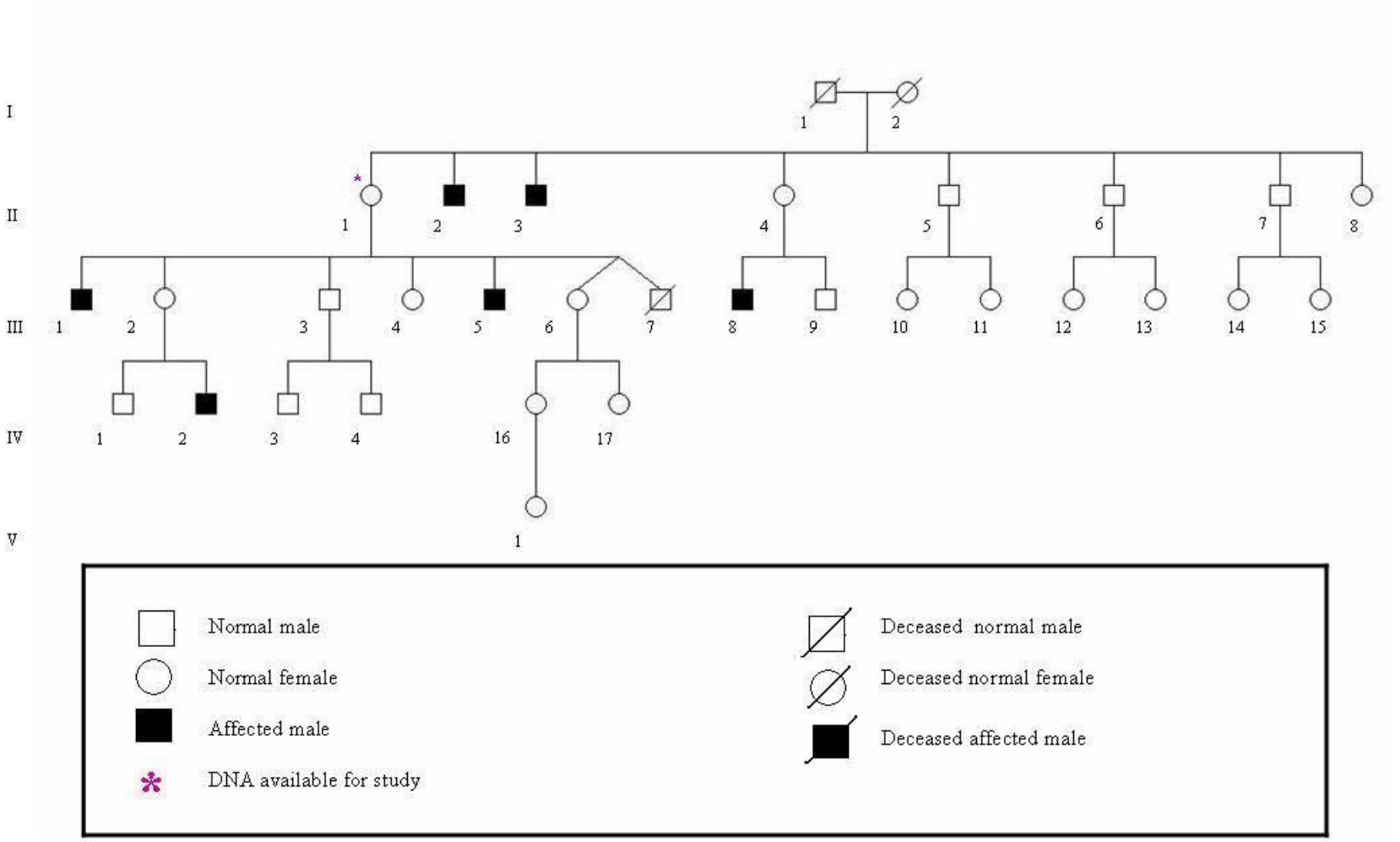

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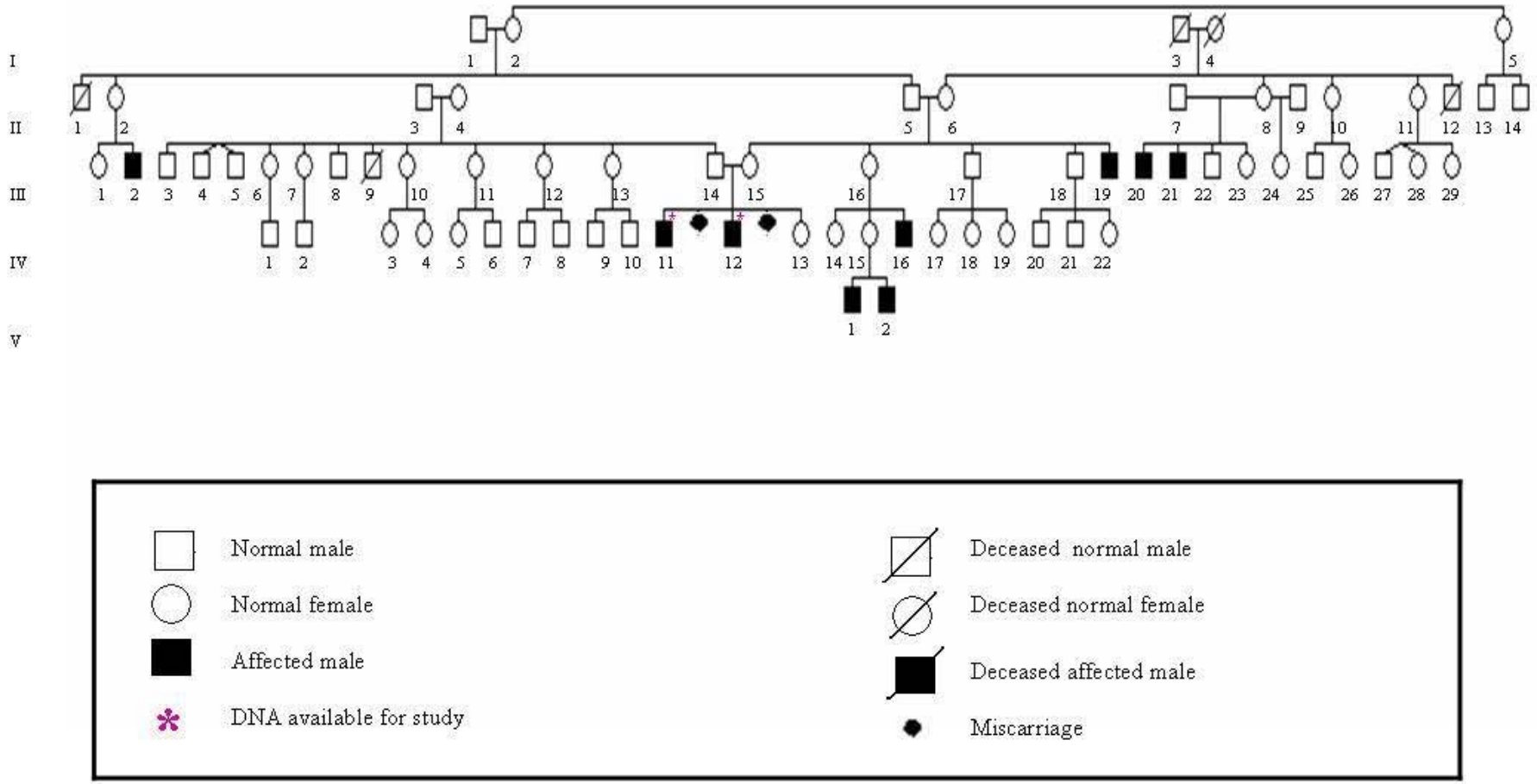

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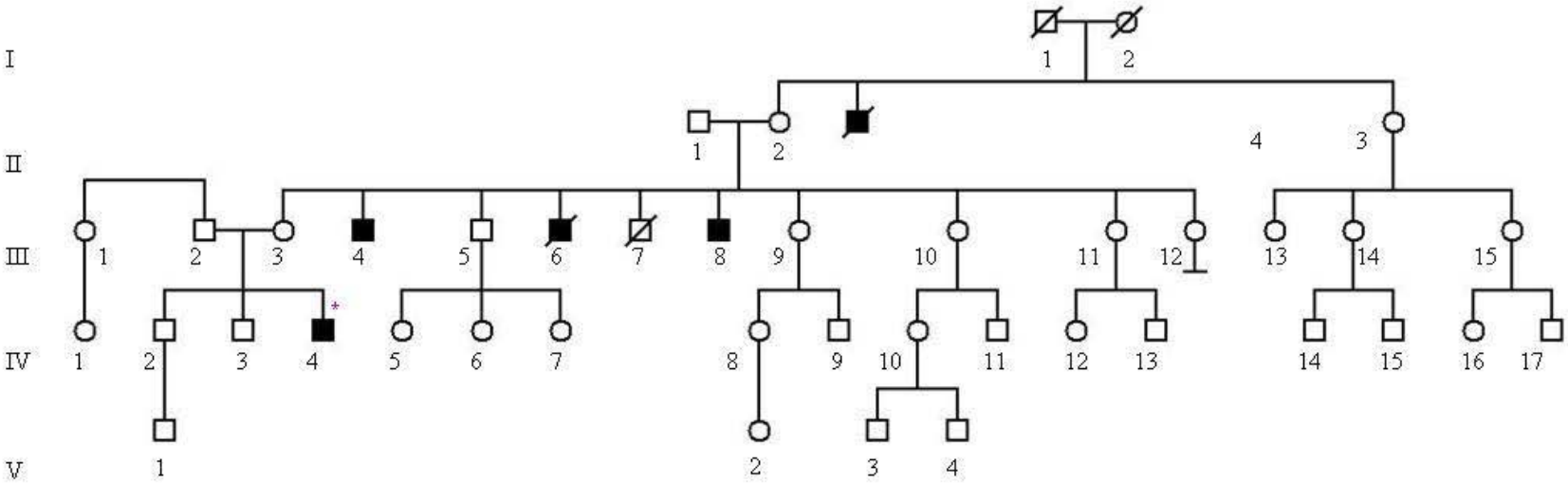

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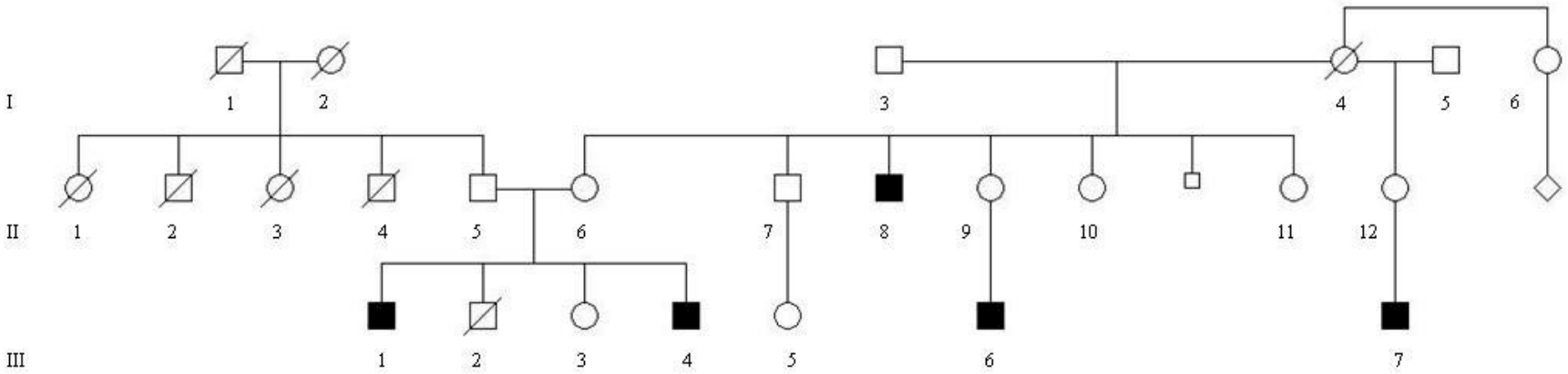

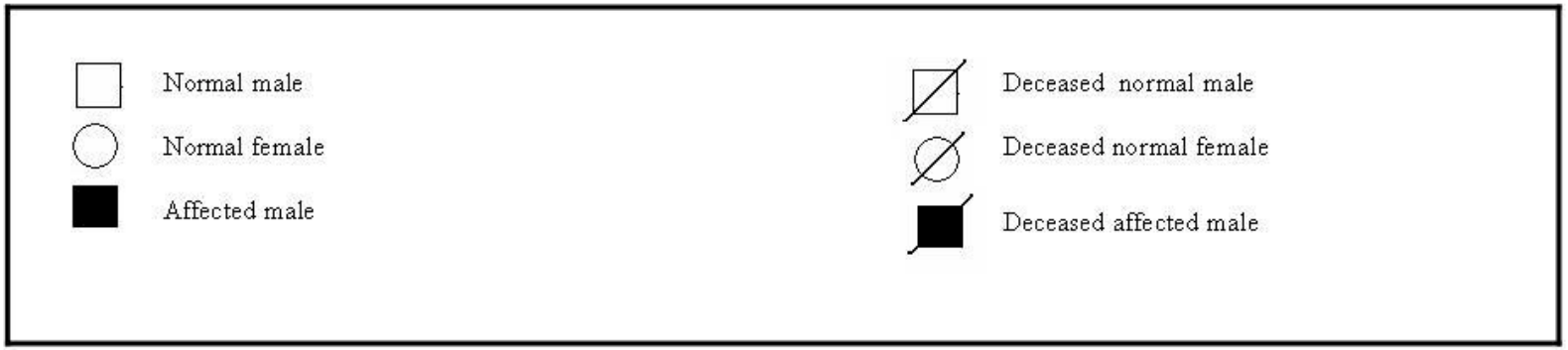

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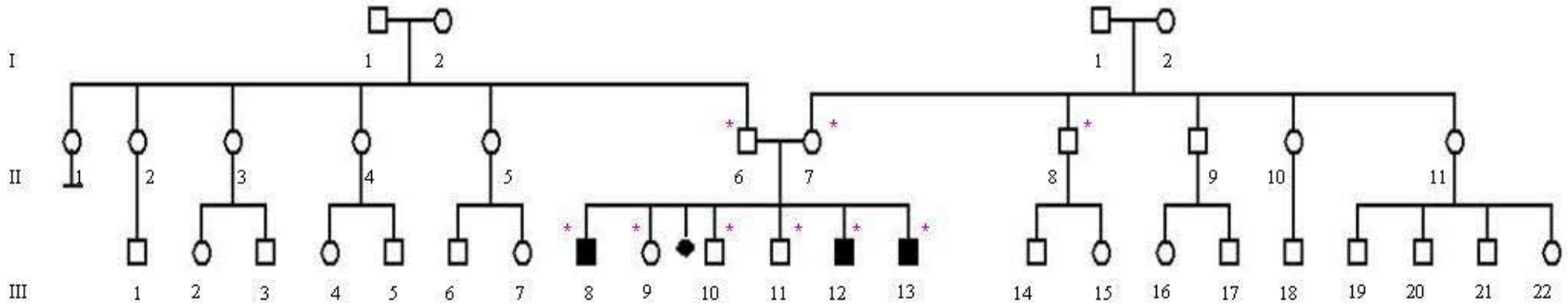

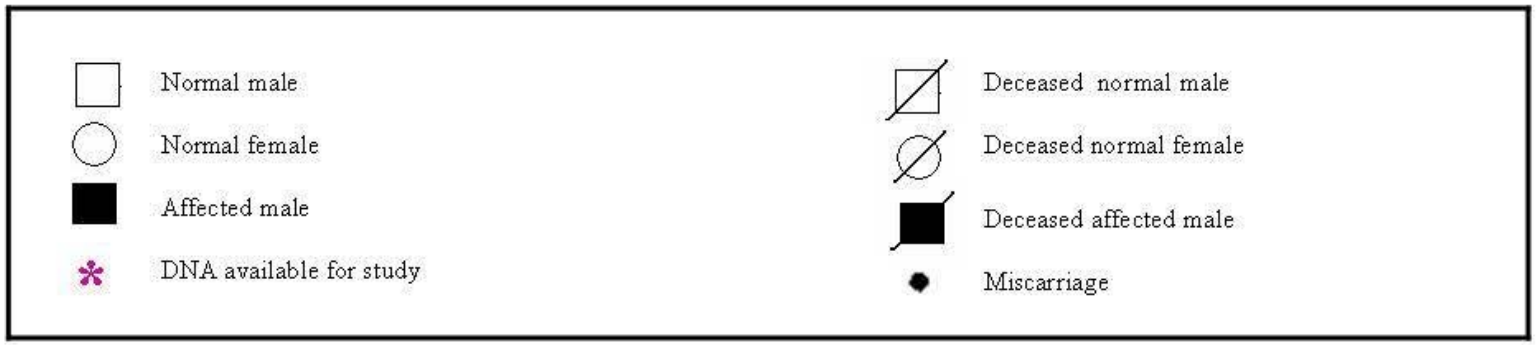

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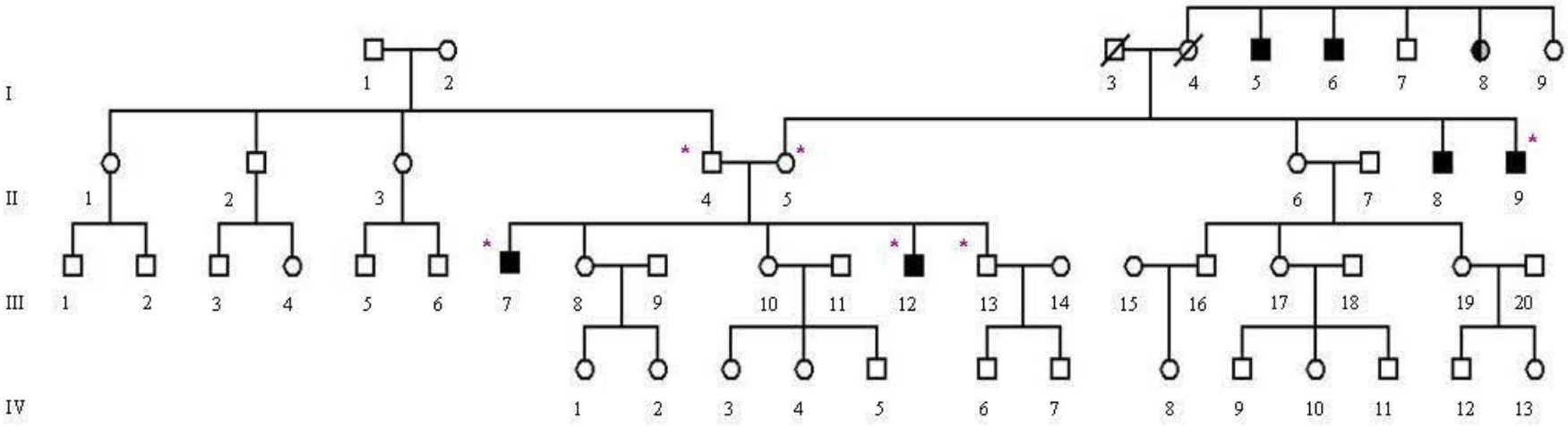

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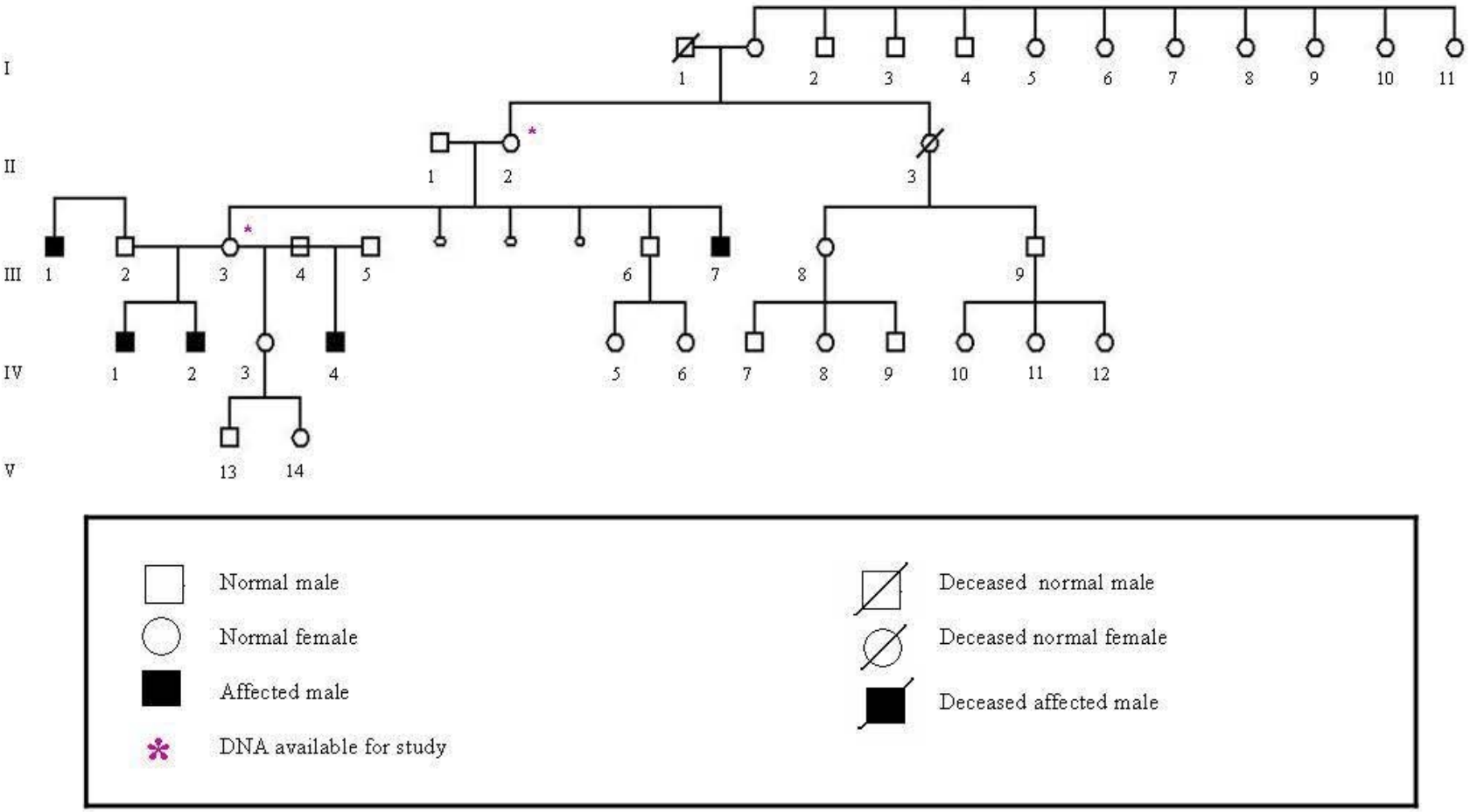

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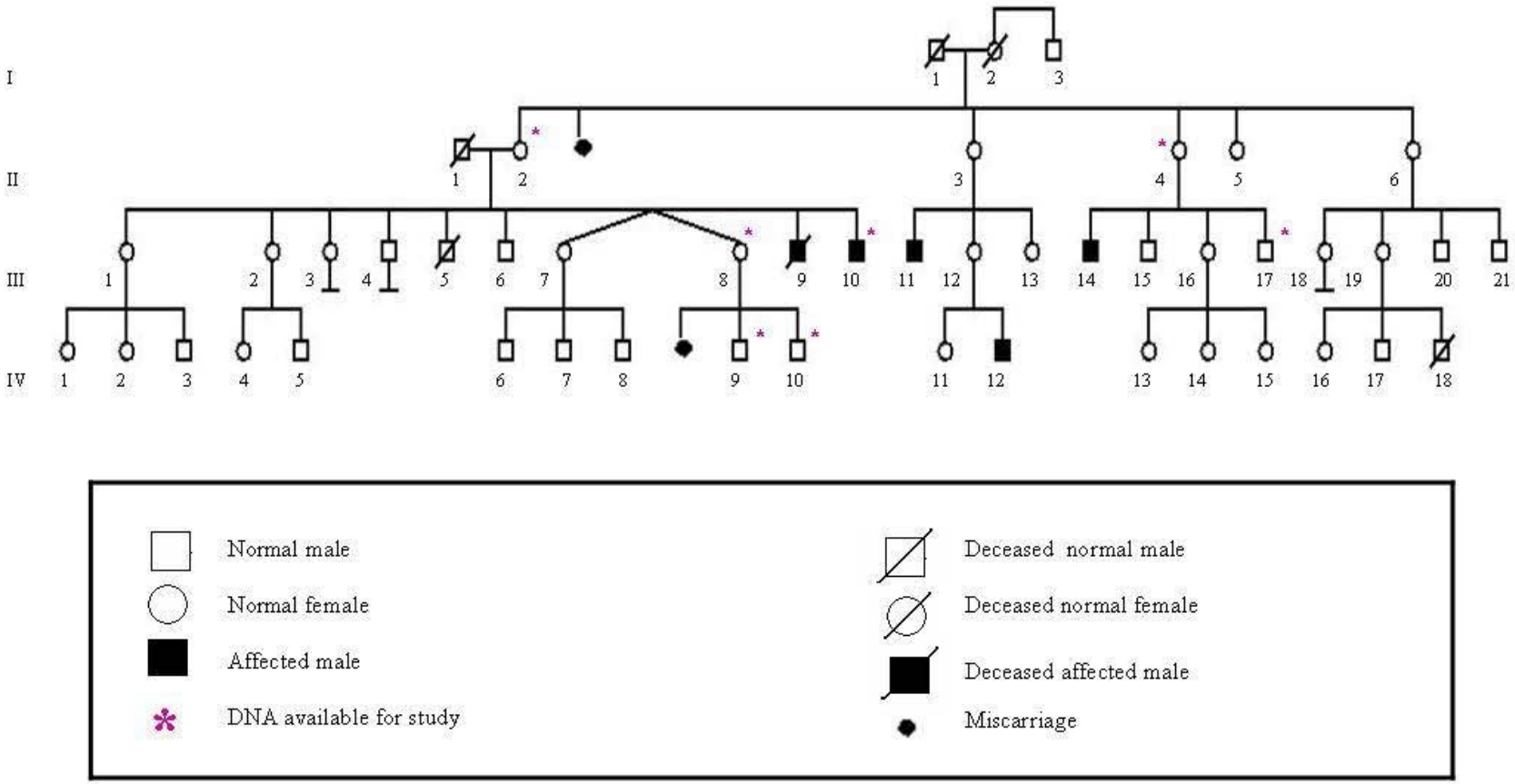

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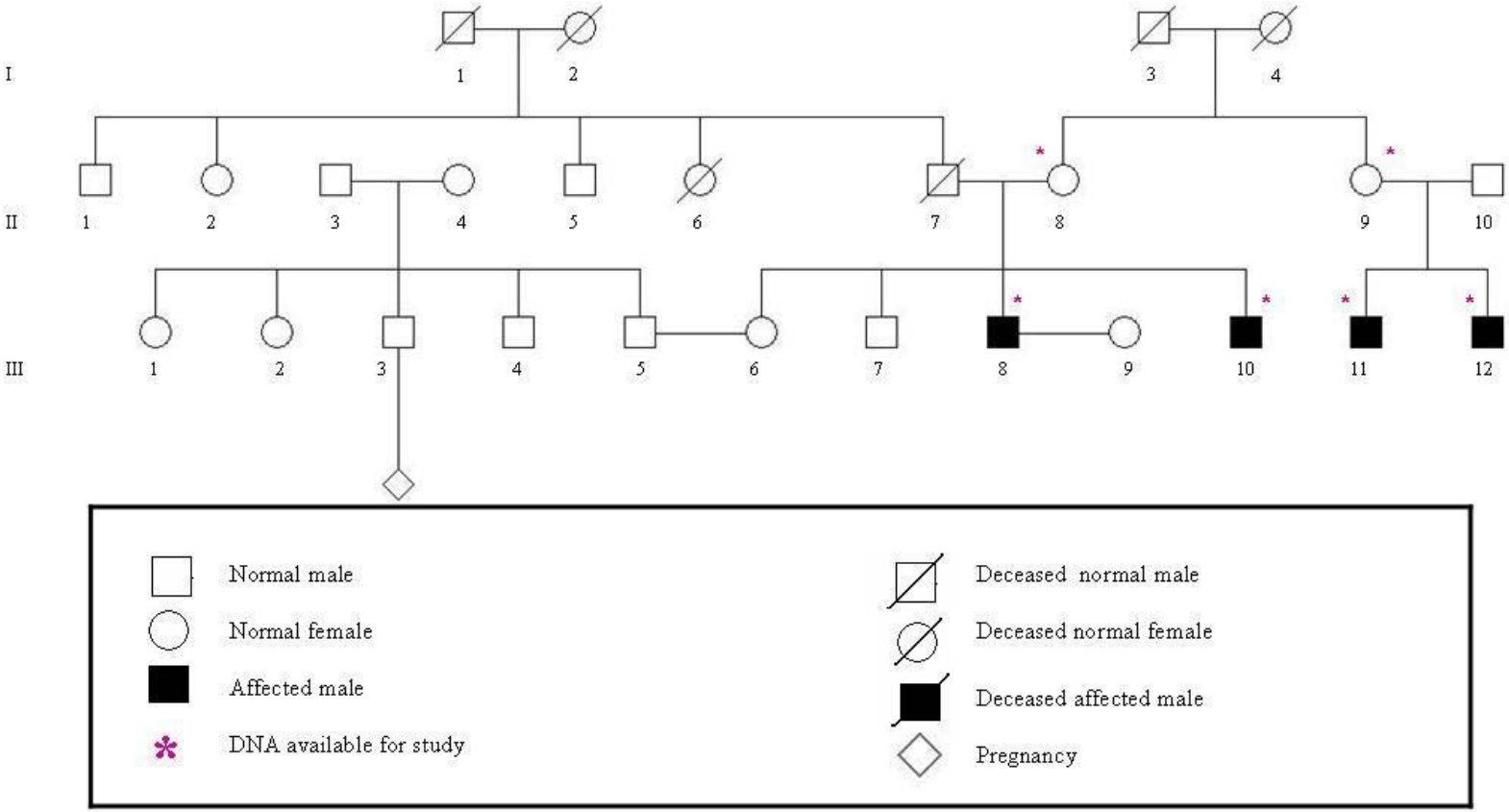

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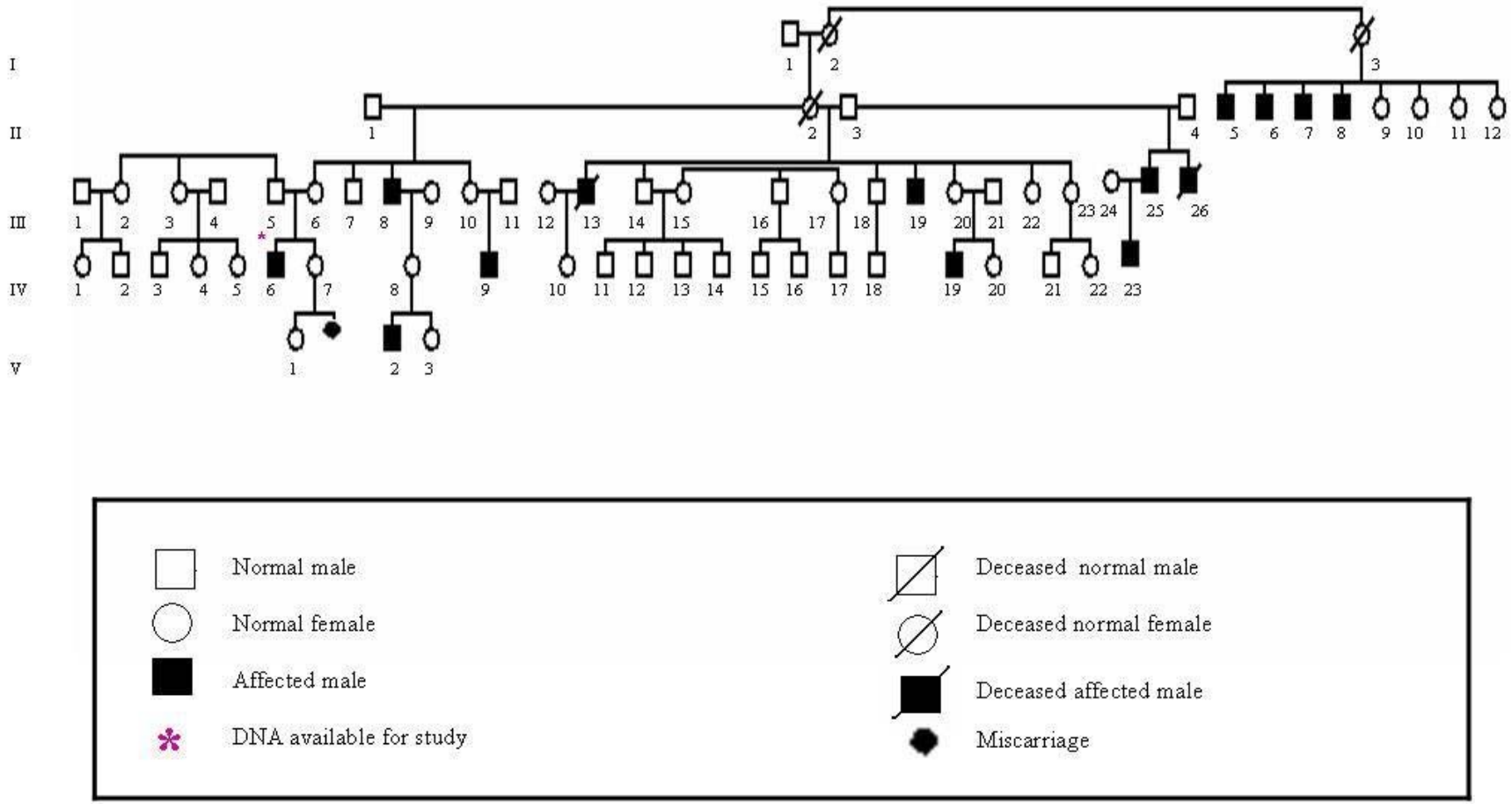

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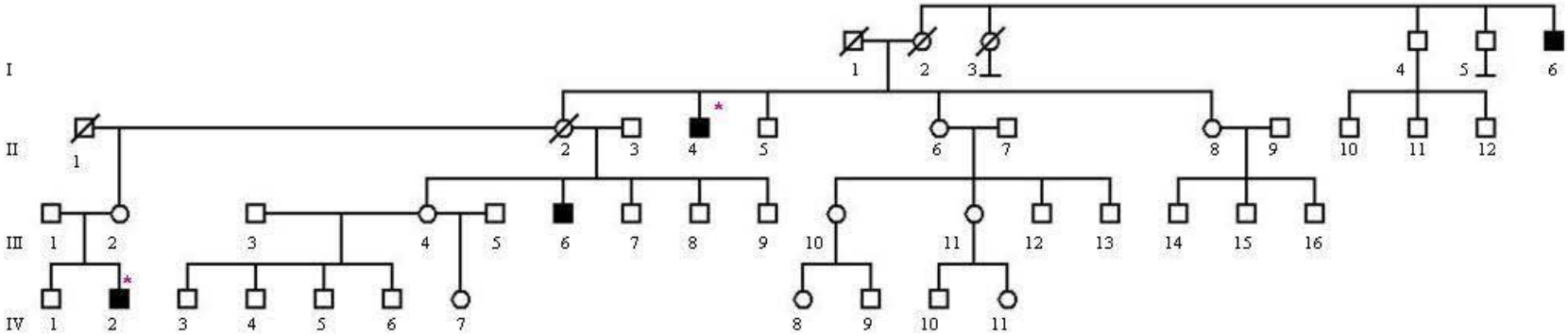

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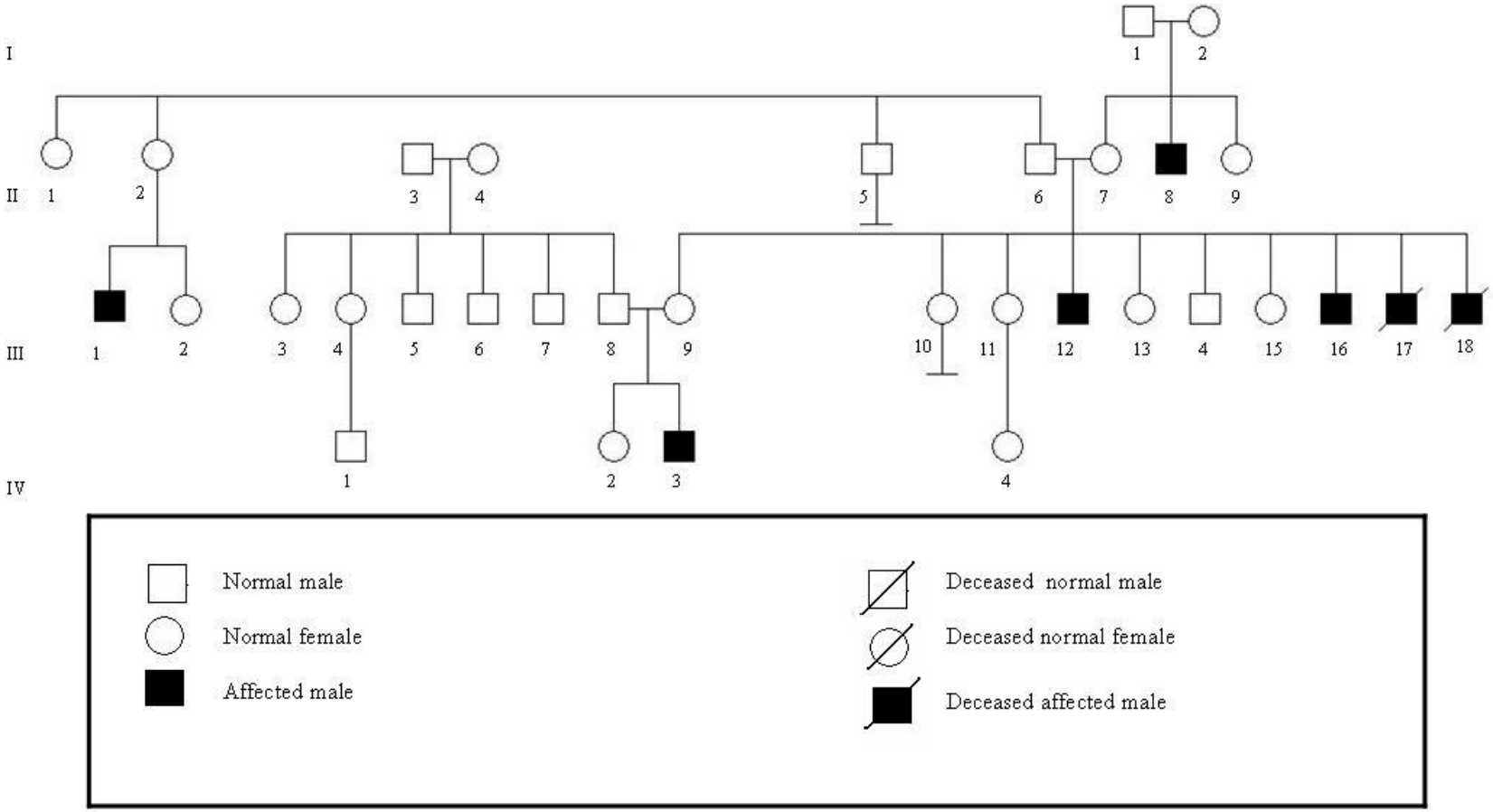

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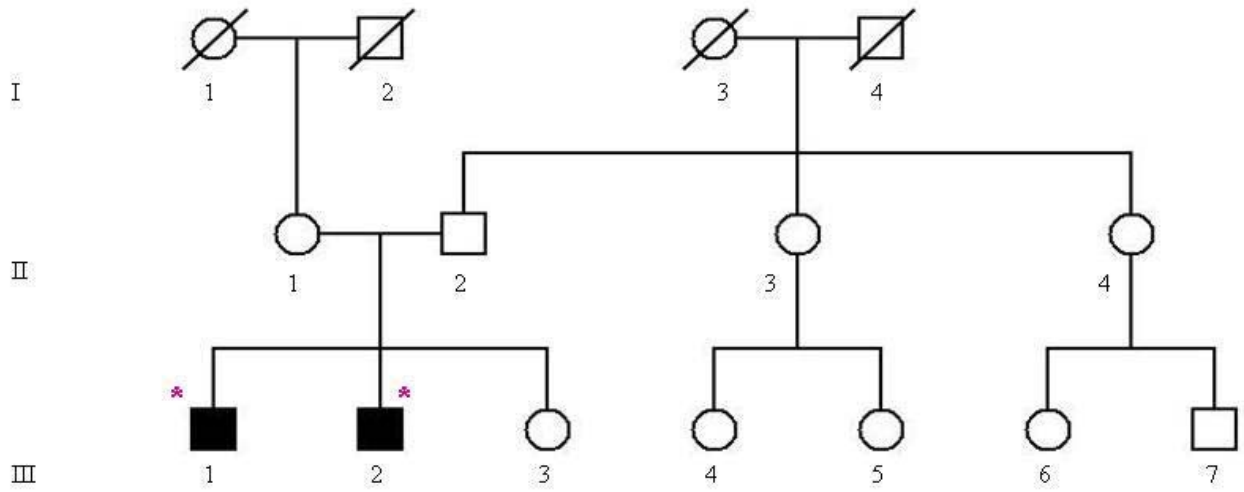


Normal male

Normal female

Affected male

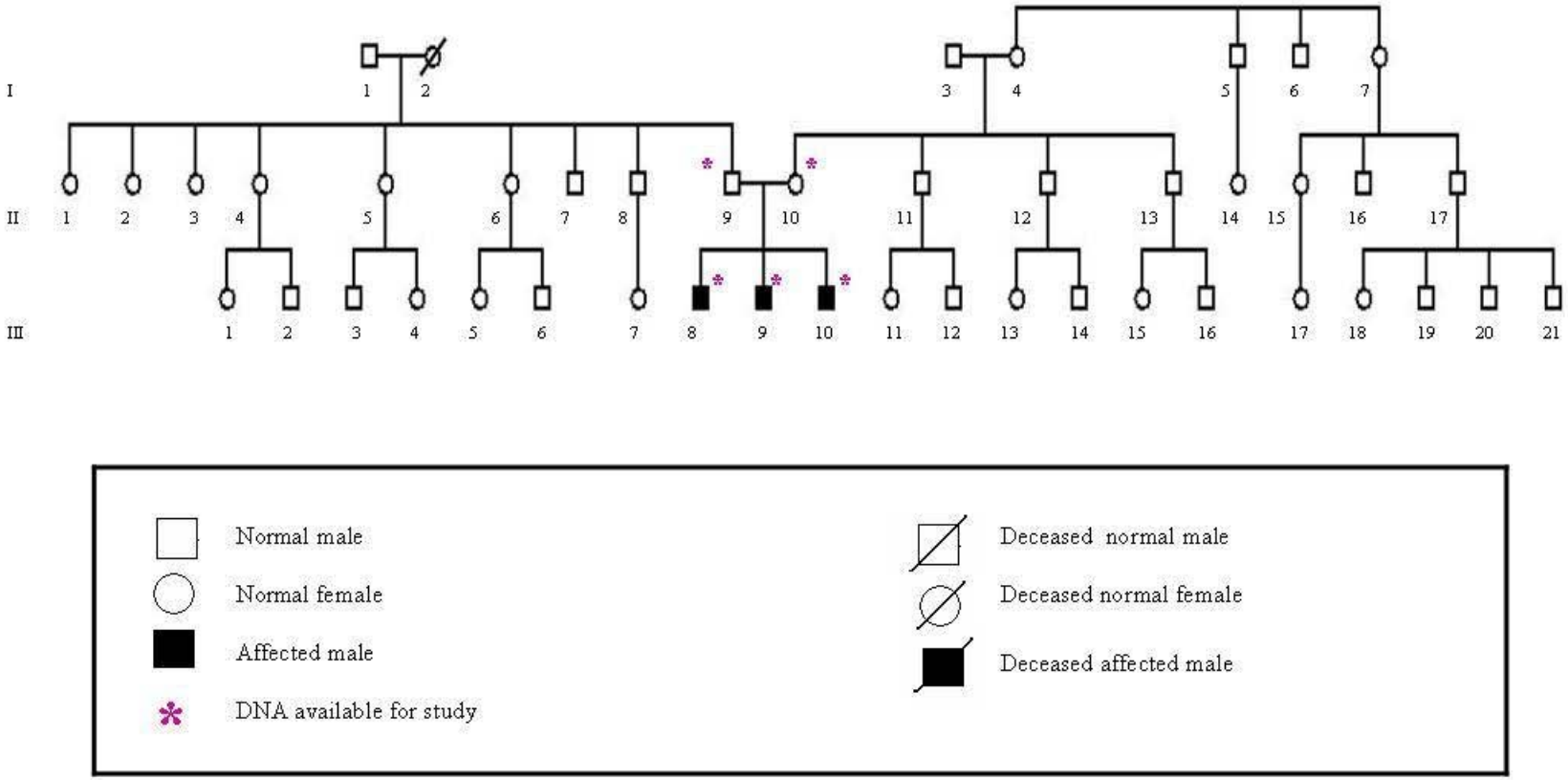
DNA available for study

Deceased normal male

Deceased normal female

Deceased affected male

Pedigree 16 – Family GOLD SA 16



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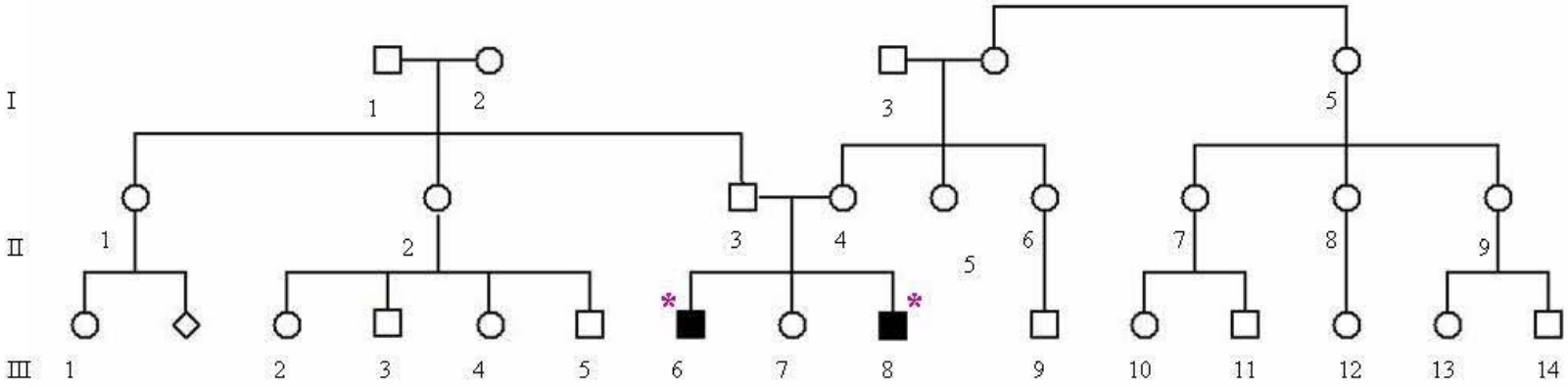

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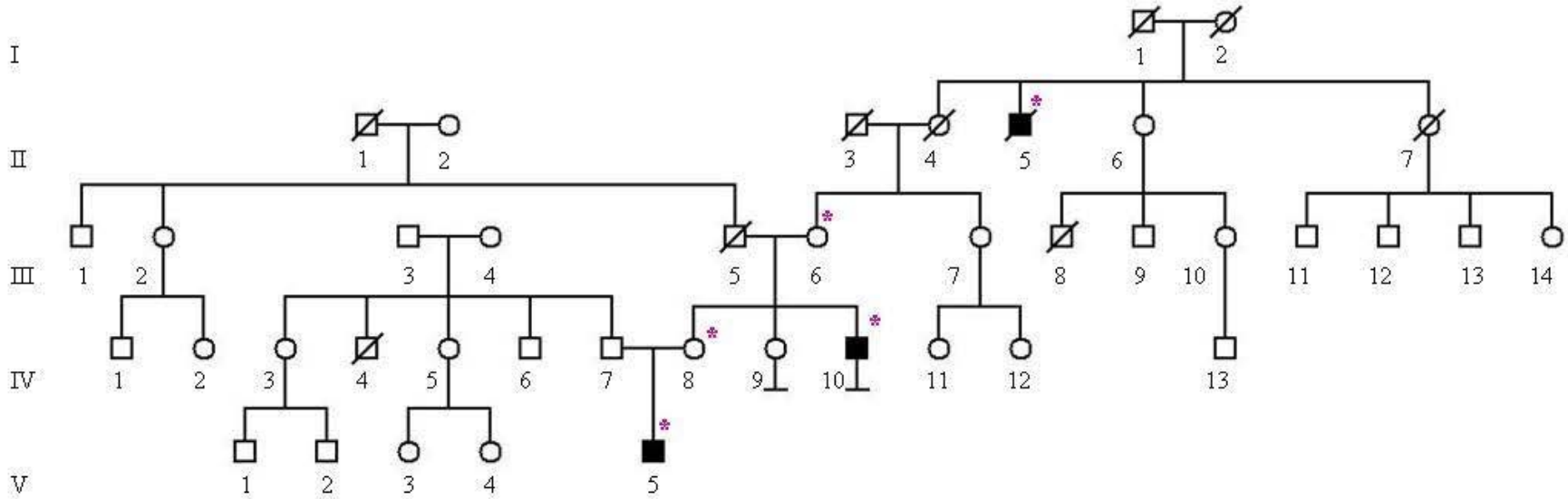

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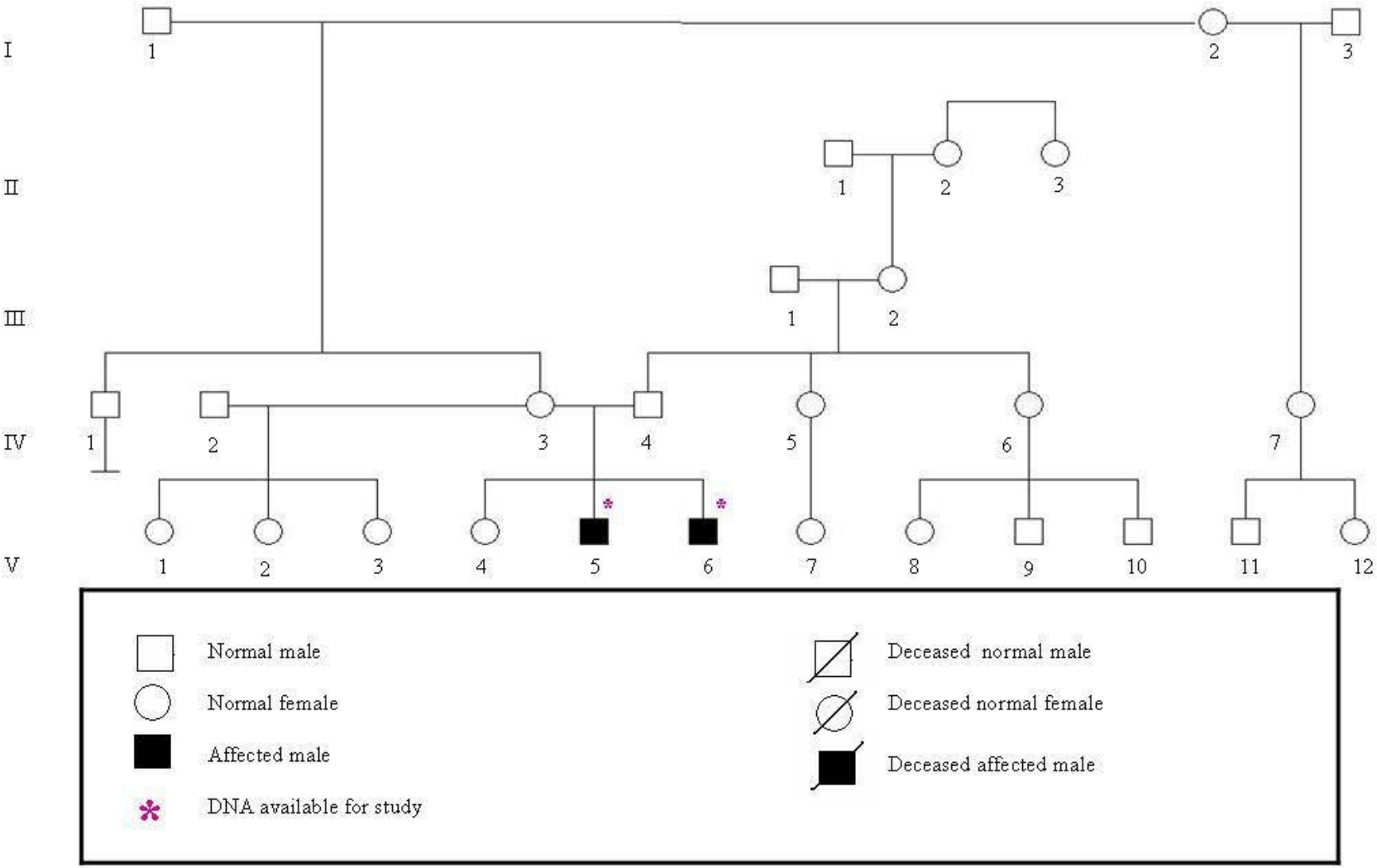

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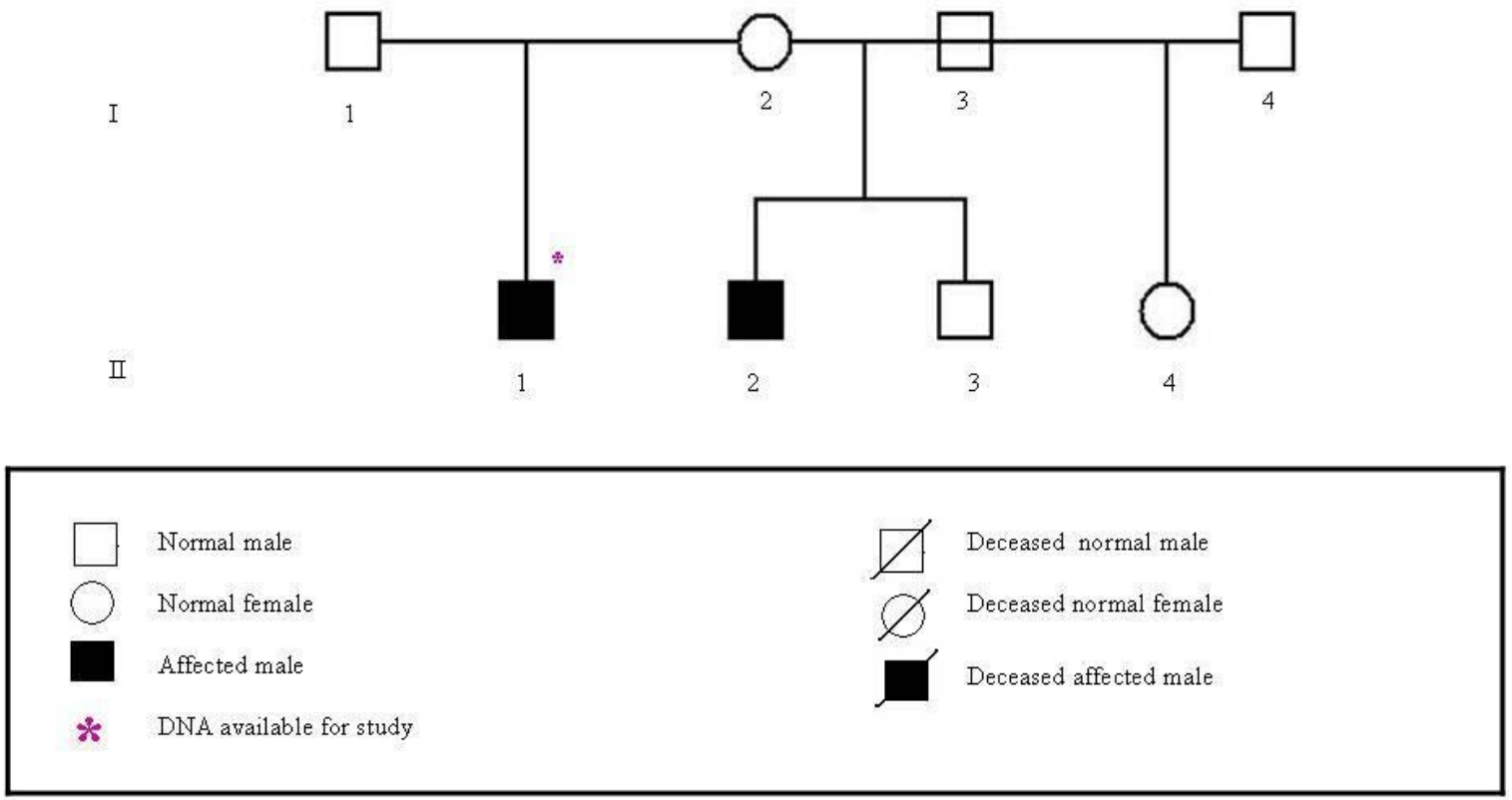

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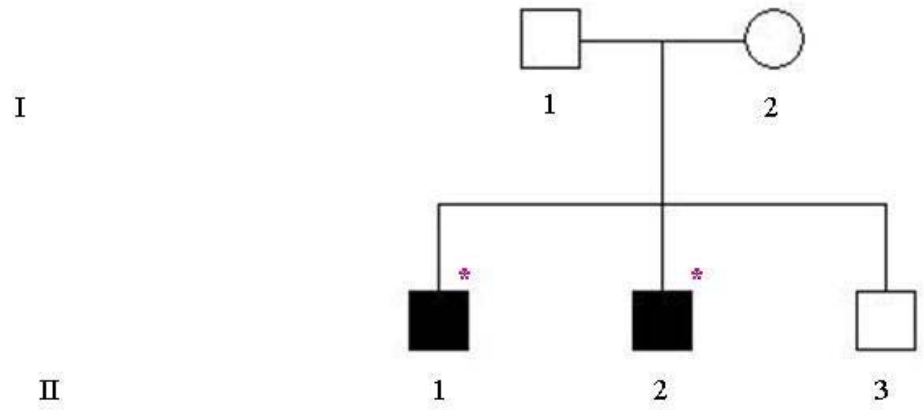
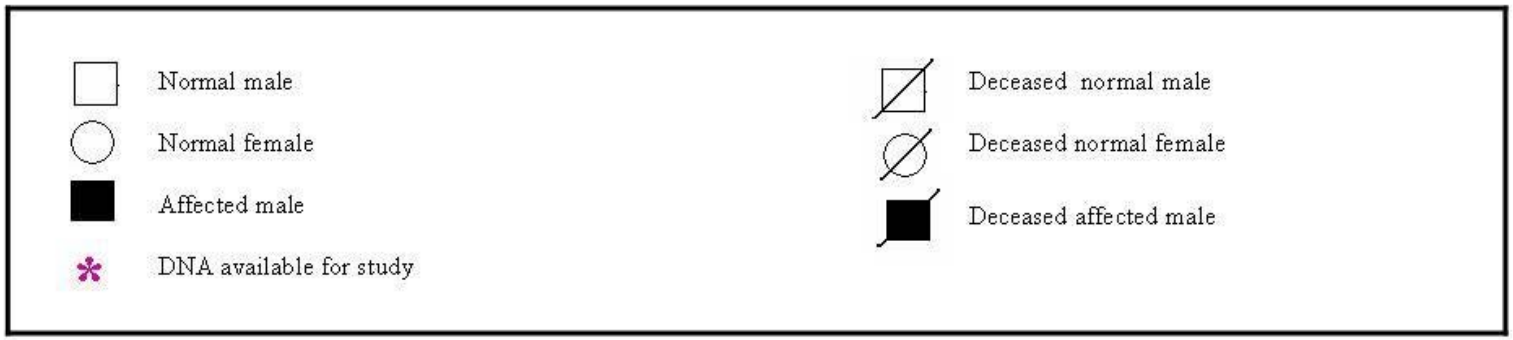
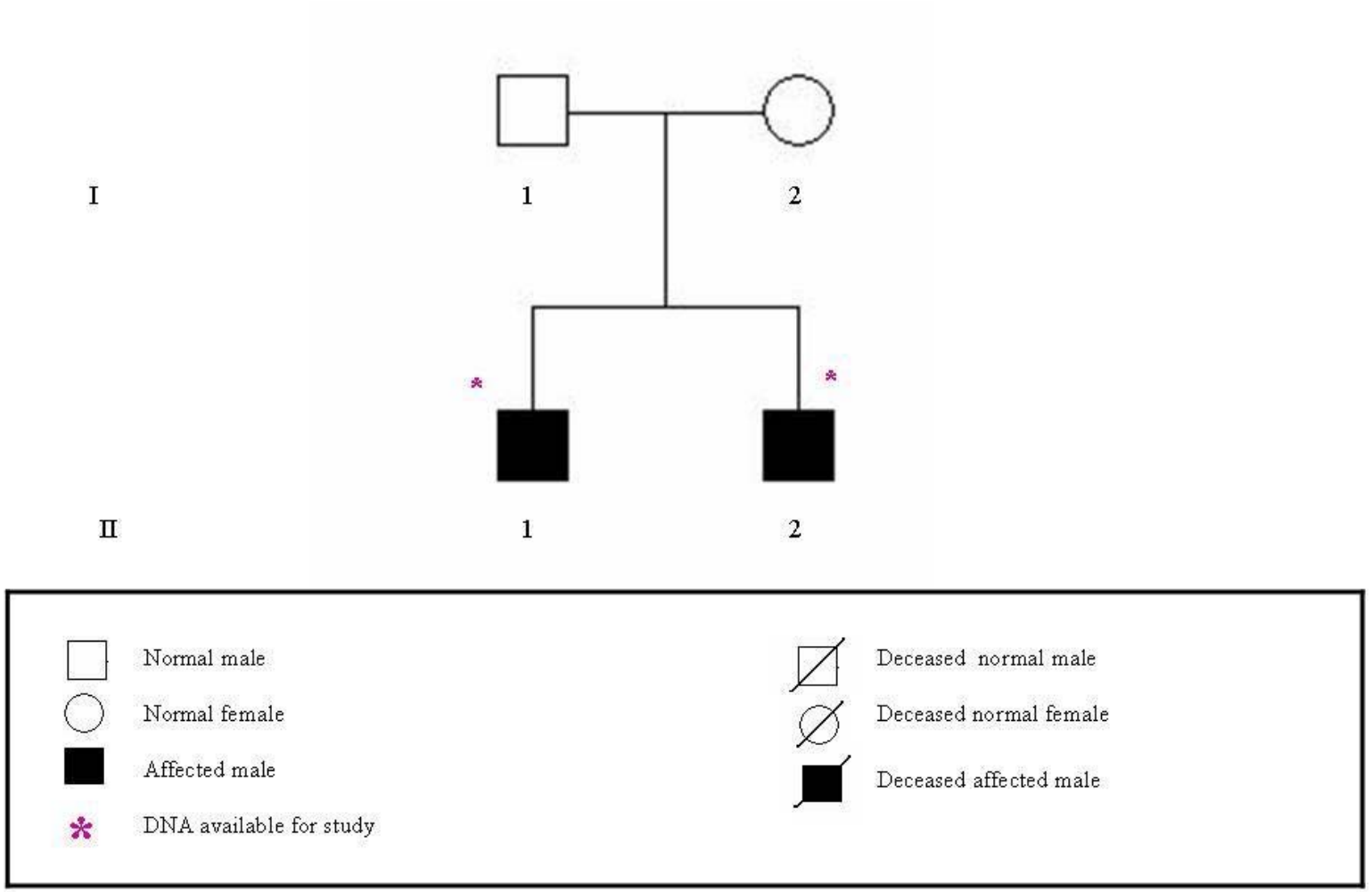
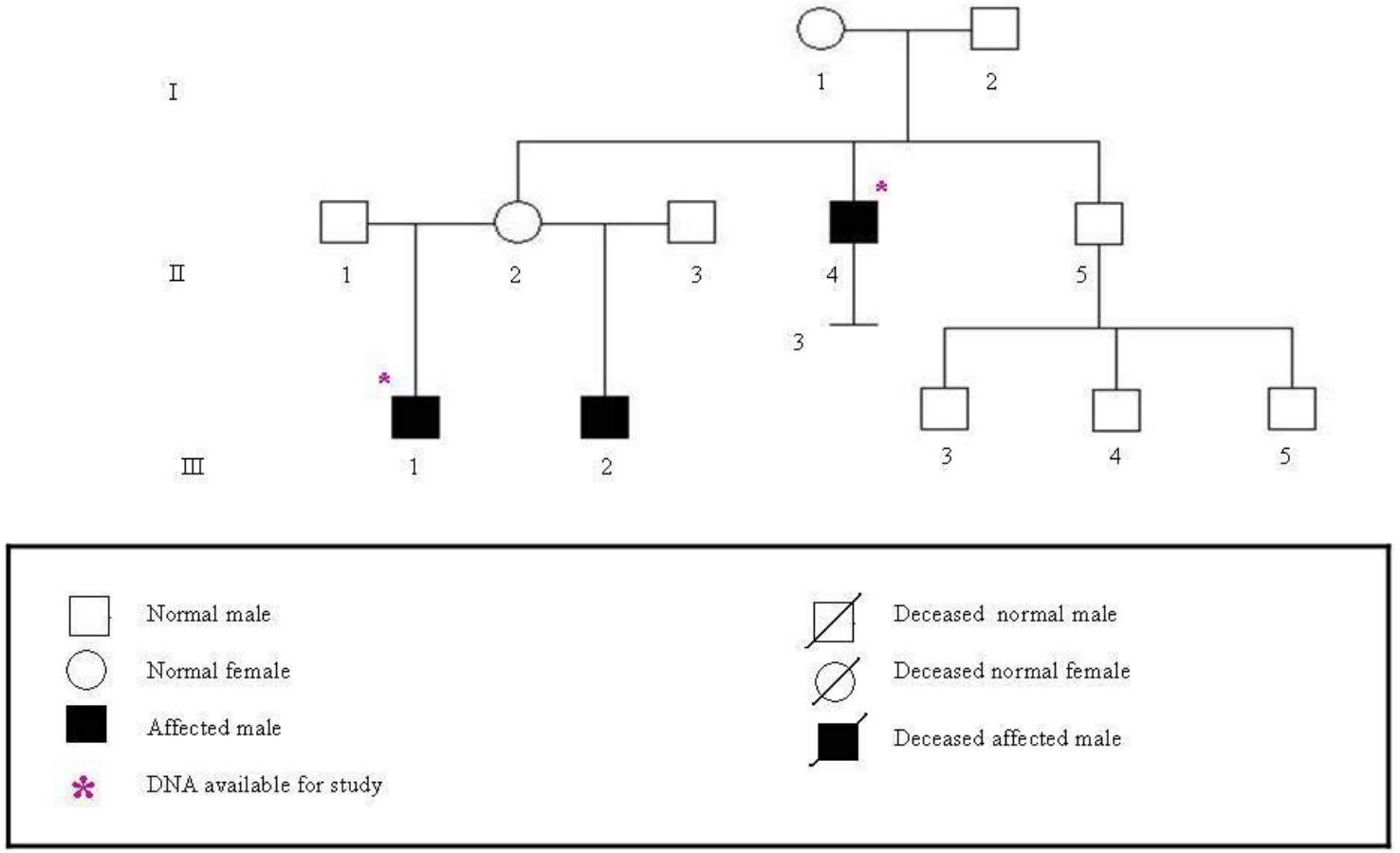




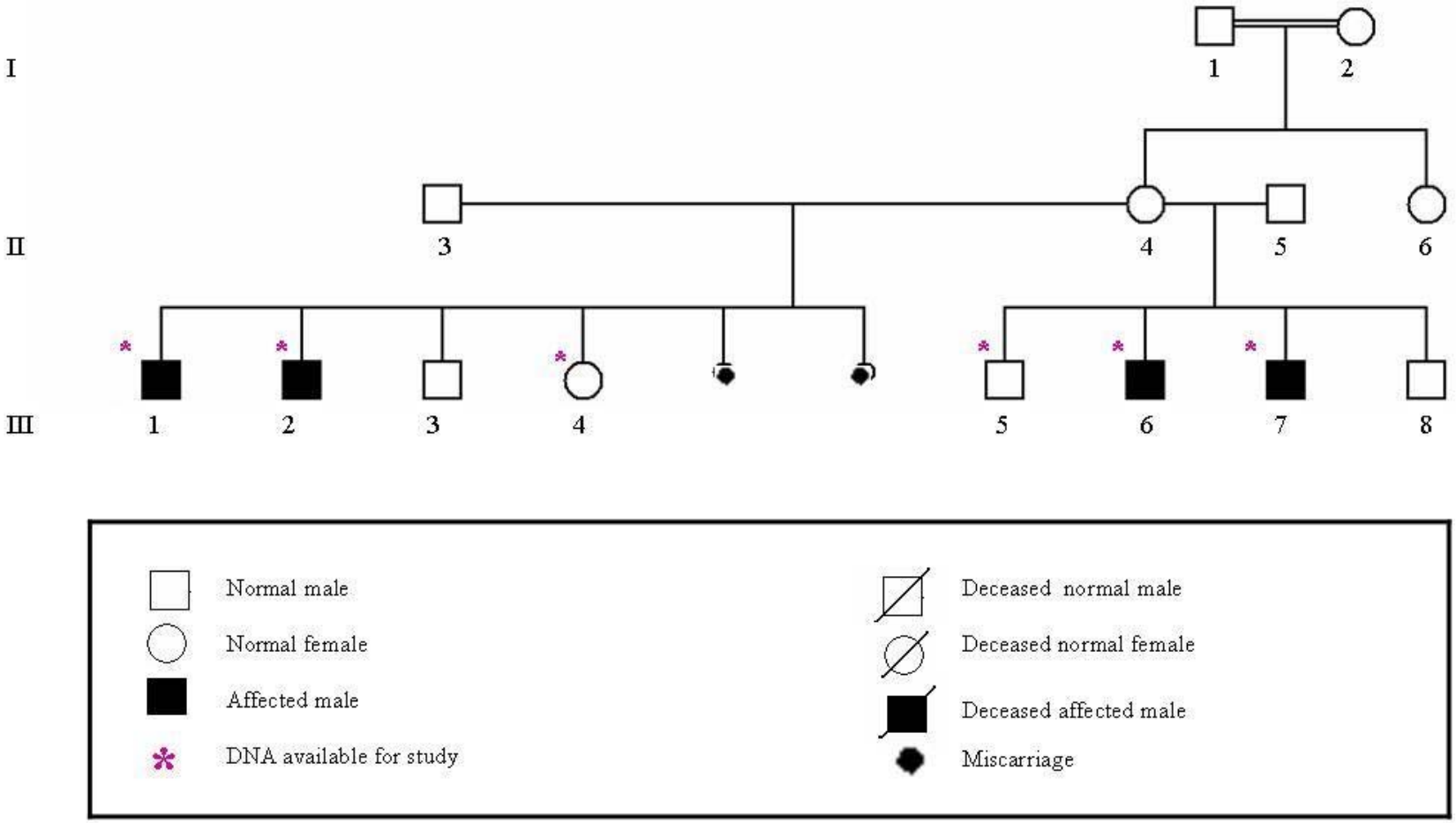
Pedigree 22 – Family GOLD SA 22



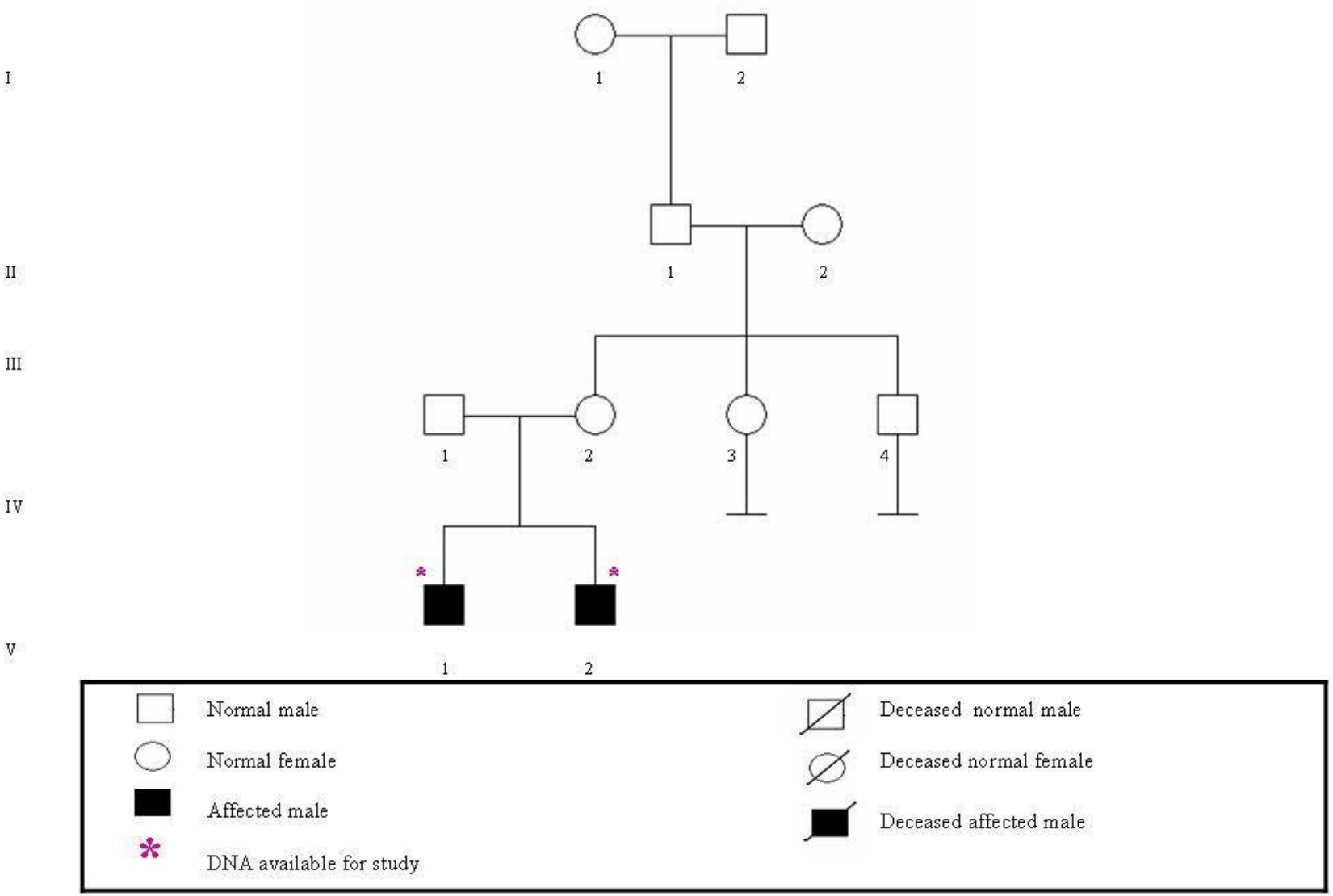
Pedigree 23 – Family GOLD SA 23



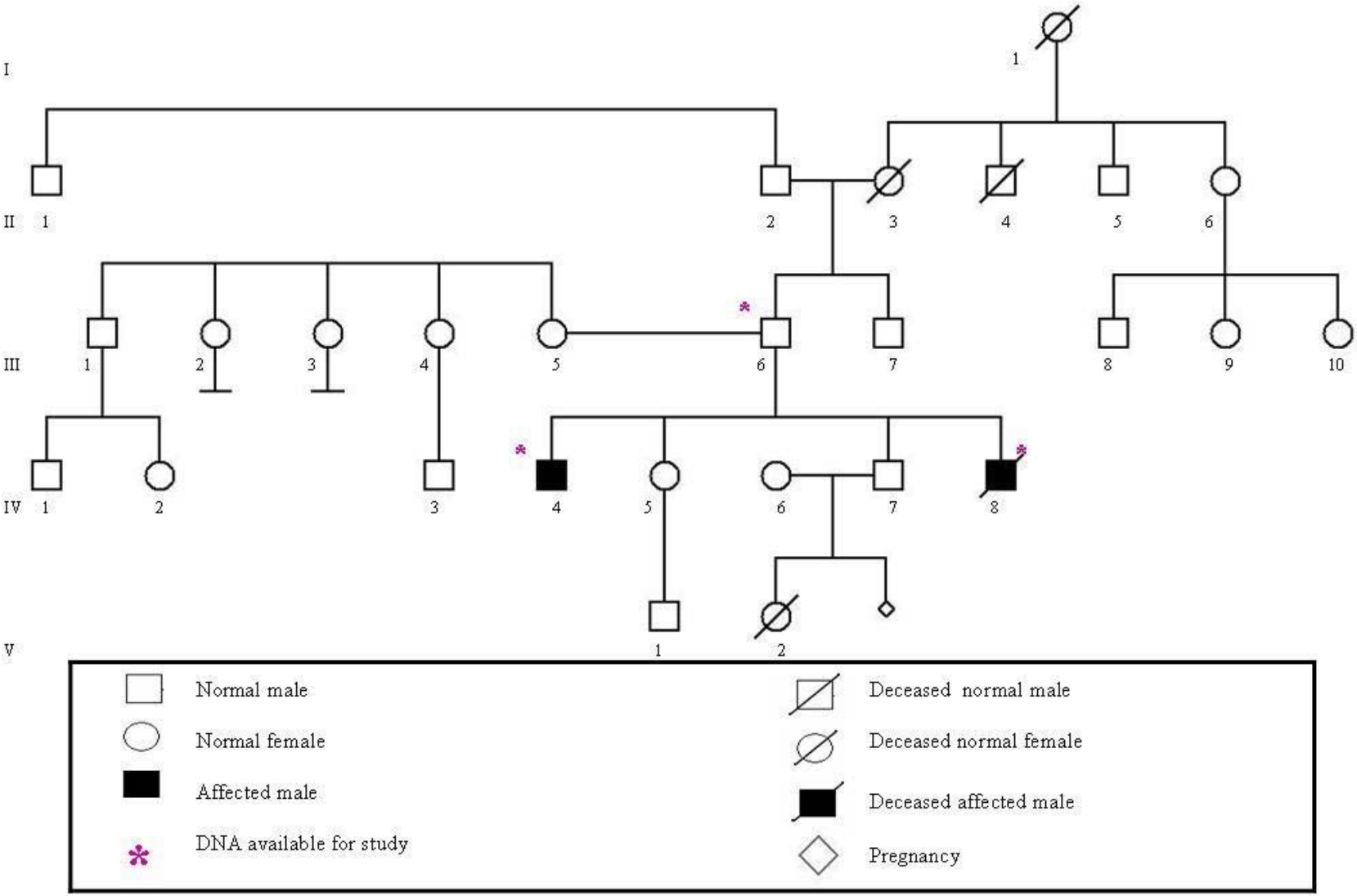
Pedigree 24 – Family GOLD SA 24



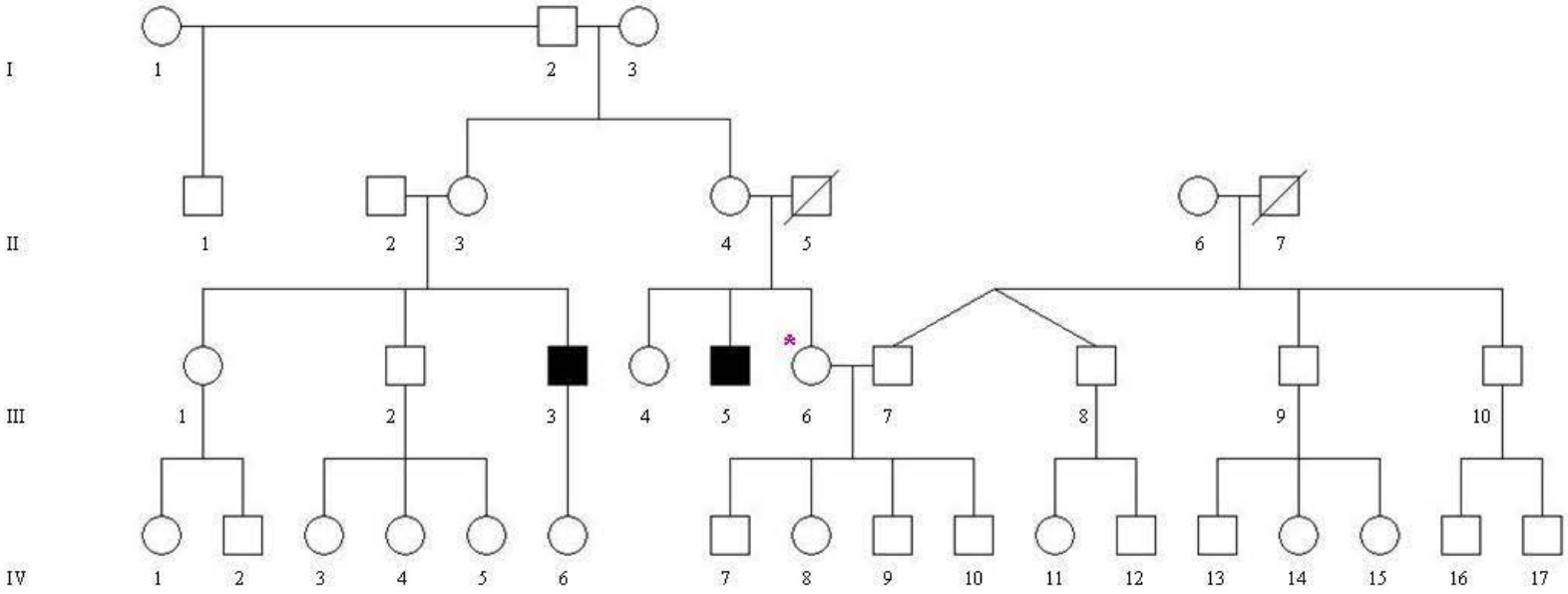
Pedigree 25 – Family GOLD SA 25



Pedigree 26 – Family GOLD SA 26



Pedigree 27 – Family GOLD SA 27



Appendix 2 List of tables

Appendix 3 List of Figures

Appendix 4 Consent to participation in the research

CONSENT TO PARTICIPATION IN RESEARCH

Name of Research Project:
Ascertainment, diagnostic evaluation and gene mapping of South Australian families with possible X-linked intellectual disability

Researchers:
Associate Professor Jozef Gecz
Dr Zahiya Al Raisi
Professor Eric Haan

I,…… consent to my/my child's involvement in the above research project. I acknowledge that the nature, purpose and likely effects of the research project, especially as far as they affect me/my child, have been fully explained to my satisfaction by …….. and my consent is given voluntarily.

1. I have been provided with an Information Sheet, and have had the opportunity to ask questions. I am satisfied with the explanations that I have been given and understand the information provided.

2. I have had the opportunity to discuss taking part in this research project with a family member or friend and /or have had the opportunity to have a family member or friend present whilst the research project was being explained by the researcher.

3. I consent to participate knowing that the aim of the research is to try to identify the gene change causing the intellectual disability in my family.

4. I understand that I/my child may not directly benefit by taking part in this study.

5. I acknowledge that the possible risks and /or side effects, discomforts and inconveniences, as outlined in the Information Sheet, have been explained to me.

6. I consent to the collection and storage of the health information that I will provide and of other relevant medical information about me/my child from medical records held by the SA Clinical Genetics Service, hospitals and other health professionals if necessary.

7. a) I consent to a blood specimen being collected from me/my child so that my/my child's genetic material (DNA) can be obtained, stored and tested as part of the above project. I understand that no undertaking is made regarding the availability or suitability of the sample for subsequent use by me or my family.

   b) I do/do not consent to the blood sample being used in any other research Project, provided the project has the approval of the Women's & Children's Hospital Research Ethics Committee.

8. I understand that the proposed genetic studies have the potential to confirm or exclude paternity and maternity, but that research participants will not be informed if non-paternity or non-maternity is found.

9. I understand that I can withdraw (my child) from the study at any stage and that this will not affect medical care or any other aspects of my/my child's relationship with this hospital.

10. I understand that the researchers will inform me about the outcome of the research, whether or not it is successful in identifying the gene change causing the intellectual disability in my family.

11. I understand that I/my child be provided with the results of the studies done on me/my child.

12. I understand that if the research is successful, it may lead to other research in the future that may have implication for other family members, including my children.

13. I understand that while information gained in the study may be published, I/my child will not be identified and information will be confidential.

14. I am aware that I should retain a copy of the completed Consent Form and Information Sheet.

15. I understand there will be no payment to me/my child for taking part in this research.

.....	.....
Name of research participant	Name of witness
.....	.....
Signature of research participant	Signature of witness
.....	.....
Date	Date

I certify that I have explained the study to the parent/patient and/or child and consider that he/she understands what is involved.

.....	.....
Signature	Date

Status in project.....

Appendix 5 Information sheet

INFORMATION SHEET

Name of Research Project:
Ascertainment, diagnostic evaluation and gene mapping of South Australian families with possible X-linked intellectual disability

Researchers:
Associate Professor Jozef Gecz
Dr Zahiya Al Raisi
Professor Eric Haan

You are invited to take part in this research study because it is possible that there is a change in a gene on the X-chromosome that is responsible for intellectual disability in your family. The research will try to work out where the gene is on the X-chromosome and to identify the gene.

Your involvement in this study is entirely voluntary, and you are free to withdraw from the study at any time. You do not have to give any reason if you do not wish to participate or if you wish to withdraw. Your medical care will not be affected if you decide not to participate.

All affected and some unaffected family members will be invited to participate in the study.

Participation will involve providing health information and the collection of a blood sample.

Someone experienced in blood taking will collect the blood sample (20 ml, about four teaspoonfuls) from one of your veins. This may involve some mild discomfort or bruising. The blood sample can be taken at the Women's & Children's Hospital, through your general practitioner, or at one of the many blood collection centres throughout South Australia. Arrangements can be made for blood collection elsewhere in Australia if necessary.

The blood for the study will be sent to the Department of Genetic Medicine at the Women's & Children's Hospital, Adelaide.

- The genetic material (DNA) will be extracted from the blood and stored frozen until it is used for the research. Once frozen, the DNA will keep indefinitely.
- Part of some blood samples will be treated in a way that will allow the white cells to keep their ability to divide, and to provide more DNA in the future if needed.
- If initial studies are not successful in identifying the gene change, the stored DNA may be re-tested in the future to try again to identify it.
- Some DNA samples may be sent to our international collaborators to screen for the gene changes using the latest technologies.
- The amount of DNA obtained from each person's blood sample should be sufficient for the whole research study.

The research may take a long time to complete (some studies like this one have taken several years) and may not be successful.

The research requires participation of several members of your family. We will not approach your relatives without your consent or the consent of another family member who is participating in the research. You may be asked to make the first contact with a relative to ask whether he or she agrees to be contacted by us. If consent is given, we will then make contact to explain the research in detail and to seek his or her consent to participation.

We will let you know the outcome of the attempt to map the gene, whether it is successful or not.

It is likely that most participants will not receive any direct personal benefit from the research.

For most participants, the research will not produce information about you that is not already known from your health history and how you are related to the other members of the family. However some family members who do not have intellectual disability and whose children do not have it may be shown to have a high chance of carrying the gene mutation even though it has not caused any problems. This would be unexpected information and could mean that unborn children or grand children could inherit the gene mutation and have intellectual disability.

If the research generates information about you that may be of relevance to the health of other family members, such as your children (e.g. that they might have inherited the intellectual disability gene mutation), your consent will be sought before offering to disclose such information to the family members concerned.

Non-paternity or non-maternity is the situation in which someone considered to be a person's biological mother or father is not his or her real mother or father. Most genetic tests cannot determine this. However, when genetic tests are done on several members of one family, as in this research study, they might reveal non-paternity or non-maternity if it is present. If non-paternity or non –maternity is detected, we will not disclose it to anyone unless required to do so by law.

Any personal information we collect about you during the study and any results that come from the study will be kept confidential. No information that could lead to identification of any individual will be released without his or her written consent, unless we are required to do so by law. However, your DNA and health information will be used and stored in a way that allows to us to know whose DNA or health information it is – in other words, it will be possible to link your name and other personal details to your DNA sample and health information.

This study has been approved by the Research Ethics Committee of the Women's & Children's Hospital. Should you wish to discuss the study with someone not directly involved, particularly if you have any complaints or concerns, you should contact the Executive Secretary of the Committee, Ms Brenda Penny, at the Women's & Children's Hospital on 81616521.

If you have any questions or concerns about the study at anytime after reading this information sheet, you should contact Dr Zahiya Al Raisi or Professor Eric Haan on (08) 8161 7375 during working hours.

Appendix 6 X linked mental retardation form

X Linked Mental Retardation

Research Study Family No:

Personal Details:

Surname :

Given Names: Sex : Male Female

Hospital URS: GF:

PK No : DNA No:

Address: DOB:

Post Code: Age: Years Months

Phone: Home

Work

Mobile

Family History :

Mother's Details	Father's Details
Surname:	Surname:
Given Names:	Given Names:
Age: Years Months	Age: Years Months
Race: Caucasian Aboriginal	Race: Caucasian Aboriginal
Asian Other	Asian Other

Consanguinity: Yes No

Plurality: Single Twin Triplet Quad Other

Pregnancy Outcomes: Live births

Spontaneous abortions

Still births

Terminations

Total

Family History of MR: None

Sibling

Parent

Maternal Aunt/Uncle

Maternal Cousin

Maternal Grand parent

Paternal Aunt/Uncle

Paternal Cousin

Paternal Grand parent

Other

.....

Family H/O Autism: Yes No

If yes, specify: .....

Family H/O Epilepsy: Yes No

If yes, specify: .....

Family H/O Other Neurological Problems: Yes No

If yes, specify: .....

CLINICAL INFORMATION OF THE AFFECTED MEMBER:

Birth wt gms

Birth Head Circumference . cm

Birth Height . cm

Neonatal Problems Yes No

If yes specify.....

MR severity: Borderline Mild Moderate Severe Profound

IQ:

Specific delays or learning difficulties: Yes No

If yes, specify.....

DD Assessment: - Clinical Yes No

If yes, Age : Years Months

Result.....

- Psychological Yes No

If yes, Age: Years Months

How?.....

Result.....

Pervasive developmental disorder: Yes No

If yes, specify: .....

Epilepsy: Yes No

If yes, specify: .....

Psychiatric Disorders: Yes No

If yes, specify: .....

Abnormal behavioural features Yes No

If yes, specify: .....

Birth Defects : Yes No

If yes, specify: .....

Vision : Normal Impaired

If impaired , specify: .....

Hearing: Normal Impaired

If impaired , specify: .....

Other Neurological Features : Yes No

If yes, specify: .....

Current Weight: . Kg

Current Height: . cm

Current Head Circumference: . cm

Dysmorphic Facies Yes No

If yes, specify: .....

.....

Other Dysmorphic Features Yes No

If yes, specify: .....

Malformations: Yes No

If yes, specify: .....

Neurological Signs: Yes No

If yes, specify: .....

Other Findings: .....

Investigations:

Cytogenetics

Routine cytogenetics before 1991

Routine cytogenetics after 1991

ST FISH

ST MLPA

Other FISH

Molecular

Fragile X (A) molecular test

Fragile X (A) cytogenetic test

Fragile X (E) molecular test

ARX

Microdeletion 17q21.31(devries)

Copy number other imbalances (devries)

MECP2

PQBP1

Oligophrenin

Array-Affymetrix (SY)

Array-Illumina (SY)

Array-Nichol

Array-BAC/PAC tiling path (Belgium)

Array-Sequencing chip Affymetric (Germany)

Array-Comprehensive X-chromosome gene content (Sanger)

Linkage

Brain studies

CT brain

MRI brain

Ultrasound brain

EEG

Biochemistry

Urine AA/OA/MPS

TFT

CK

7-DHC

Lysosomal enzymes

Haemoglobin H bodies

Uric acid

Appendix 7 GOLD SA 2007 newsletter

NOTE:
This newsletter is included in the print copy of the thesis held in the University of Adelaide Library.