



Reproductive Technologies, Inc.

# THE SPERM BANK OF CALIFORNIA

## INTERVIEW NOTES: 6164

Donor 6164 greeted us with a beautiful smile with bright and positive energy as we entered his interview. He was dressed comfortably in a blue V-neck t-shirt with a pair of black shades hanging in the middle. He paired it with light grey jeans and dark grey sneakers. His dark brown hair was cut short on the sides and longer on top. It appears that if it were longer, it would be slightly wavy or curly hair. Donor 6164 has a full beard which accents his strong jawline. He has straight full brows that frame his almond shaped brown eyes. His nose is slightly broad but fits his face perfectly. His cheeks crease when he smiles which we could tell was a regular occurrence. He said that he has been told by others that he resembles Hugh Jackman, and we definitely agree!

Donor 6164 had a traditional suburban childhood living with his parents and younger brother. He has always been close to his brother, and they recently took a two-week road trip. They visited Oregon, Washington, the peninsula, and San Juan Islands. He said he did general kid stuff, hanging out with friends, bike riding, and playing video games. He particularly enjoyed playing stealth action games. Scuba diving, kayaking and aquarium keeping were other hobbies he has gotten into at various points in time. He is a major animal lover and has always had a close bond with his family pets! He also enjoyed completing puzzles. He also played baseball for four years as a youngster.

In school, donor 6164 enjoyed math early on as well as science. During middle school he found reading and loved fiction and fantasy books. He also discovered a love for the gardening program which also taught the students how to cook. He still enjoys cooking and cooks a lot of fish with straightforward, simple ingredients like lemon and butter. He also loves to make sashimi and healthy hot pots filled with vegetables. He loves to fish in every way, hanging out on the shore, from simple fishing boats and even chartering boats to fish. He and his brother did a lot of fishing during their recent road trip. In high school he spent some time running with the track team but did not join the team. He did develop a lifelong love for running and is preparing for a half marathon.

Donor 6164 currently works as a software engineer. He started in analytics but then transferred to the engineering department. He loves the opportunity to guide and mentor new staff. He has been there so long that he is viewed as the company's historian. He's not sure where he sees himself in five years, stating he may return to school and shift to data science for a new challenge. He does see having a family in the future. He enjoys hanging out with his younger family members and could see himself being a good dad.

When we asked how his friends and family would describe him. He said with coworkers/friends he is considered, thoughtful, approachable, and as a mentor. With his family he would be seen as light-hearted, empathetic, and always willing to provide assistance. He considers himself more of an introvert, so he is more comfortable in small group interactions.

Donor 6164 is donor-conceived and knows firsthand the gift donors provide to families. He said if he can help people who really want to be parents, it would be an honor. We are excited to have such a thoughtful donor in our program!

*Interviewed by Kenya C. and Simone W. on 9/29/23*



Reproductive Technologies, Inc.

# THE SPERM BANK OF CALIFORNIA

## DONOR PROFILE: 6164

The past and current personal and family medical history, physical examination, and laboratory test results determine that donor **6146** is eligible and approved for semen donation at THE SPERM BANK OF CALIFORNIA. This profile was prepared in **November 2023**.

### PERSONAL INFORMATION

- Identity-Release® Program: **Yes**
- Month/year of birth: **September 1985**
- Education: **B.S. Engineering Math and Statistics**
- Current occupation: **Principal Software Engineer**
- Ethnic origin: **English, German, Irish, Scottish, Welsh**
- Religion born into: **Catholicism**
- Religion practicing: **Agnostic**

### PHYSICAL CHARACTERISTICS

- Height: **6'**
- Weight: **173**
- Hair color: **Medium brown**
- Hair type: **Wavy**
- Eye color: **Hazel**
- Complexion: **Fair/creamy**
- Body type: **Slim**
- Blood group/Rh: **A+**
- Baby photo available: **Yes**
- Other distinguishing features: **One dimple on the left**

### FAMILY MEDICAL HISTORY

**KEY:** **D** donor    **Ch** child    **F** father    **M** mother    **S** sister    **B** brother  
**Co** cousin    **A** aunt    **U** uncle    **MGF** maternal grandfather    **MGM** maternal grandmother  
**PGF** paternal grandfather    **PGM** paternal grandmother

All references to father is the donor (genetically-related).

Allergies: **D:** Cat, pollen, dust allergies at 15, treated with OTC medication, resolved at 30.

Breast Cancer: **M:** Breast cancer at 63, treated with chemotherapy, radiation, and medication, in remission.

**PGM:** Breast cancer at 75, treated with chemotherapy, radiation, and medication, cause of death at 79. **PA#4:** Breast cancer at 45, treated with chemotherapy, radiation, and medication, remission.

Gastrointestinal: **MGM:** Appendicitis at 22, treated with removal, resolved. Gallbladder disease at 66, treated with surgery, resolved.

Genital/Reproductive: **MGF:** Prostate cancer at 70, treated with surgery, resolved.

Heart: D: High cholesterol at 31, treated with medication, managed. M: High cholesterol at 55, treated with medication, managed. F: Arrhythmia (minor) at 65, no treatment, monitored. MGM: Heart disease at 65, treated with statins, managed. Coronary artery disease at 65, treated with surgery, resolved. High blood pressure at 55, treated with medication, managed. Stroke at 88, treated with blood thinners, managed. MGF: Coronary heart disease at 75, treated with double bypass surgery, resolved. Stroke at 90, treated with blood thinners, managed. MU#1: Heart attack at 65, treated with medication and stents, cause of death. Coronary heart disease at 55, treated with statins, managed. Heart disease at 55, treated with triple bypass and toe amputation for peripheral artery disease. High blood pressure at 60, treated with medication, managed. High cholesterol at 55, treated with medication, managed. MU#2: Heart attack at 65, treated with stents, resolved. High blood pressure at 55, treated with medication, managed. Heart disease at 50, treated with statins, managed. High cholesterol at 50, treated with statins, managed. PGF: Heart disease (lifestyle) at 70, treated with quadruple bypass and medication, successful treatment. Coronary artery disease at 70, treated with quadruple bypass, successful treatment. Stroke at 87, treated with hospitalization, cause of death. PU#3L Coronary heart disease at 65, treated with quadruple bypass, resolved. Heart disease at 65, treatment unknown, managed. High cholesterol at 65, treatment unknown, managed.

Mental Health: D: Depression at 16, treated with medication as needed, managed. MCo#1: ADHD at 30, treated with medication, managed. MCo#1: Anxiety in early 30's, treated with medication, ongoing. MCo#3: ADHD at 30, treated with medication, managed. Depression at 32, treated with medication, managed.

Metabolic/Endocrine: M: Diabetes type II at 55, treated with medication, managed. MU#1: Diabetes type I at 8, treated with insulin, managed. MU#2: Diabetes type II at 56, treated with medication, managed. NCo#3: Diabetes type II at 31, treated with medication, managed.

Muscles/Bones/Joints: M: Osteoarthritis at 65, treated with hip replacement, resolved. F: Osteoarthritis at 70, treated with wrist splint, managed. MGM: Osteoarthritis at 70, treated with OTC medications, managed.

Neurological: MGM: Dementia at 88, treated with medication, slowly progressing.

Respiratory (Lungs): MGM: Pneumonia at 93, treated with hospice, cause of death. MGF: MGF: Tuberculosis at 7, unknown treatment, resolved. MGF: Pneumonia at 94, treated with hospice, cause of death. MU#1: Asthma (from smoking) at 60, treated with an inhaler, managed. Asthma (childhood) at 1, unknown treatment, resolved. MCo#2: Asthma at 1, treated with inhaler, managed.

Sight/Sound/Smell: D: R: 20/13, L:20/15. F: Pre-glaucoma at 65, treated with eyedrops, managed. PGM: Glaucoma at 65, treated with eyedrops, managed. PGF: Macular degeneration at 85, unknown treatment, managed.

Skin: F: Skin cancer at 64, treated with removal, resolved. PGF: Skin cancer (basal cell) at 75, treated with excision, resolved.

Cancer (see above): M: Breast cancer. F: Skin cancer. MGF: Prostate cancer. PGM: Breast cancer. PGF: Lymphoma at 80, treatment unknown, remission. PCo#15: Lymphoma at 27, treated with chemotherapy, recent diagnosis, treatment ongoing.

Other: D: Gynecomastia at 31, treated with surgery to remove excess tissue, resolved. MCo#2: Celiac disease at 36, treated with diet, managed.

## DONOR LAB RESULTS

Chlamydia: **Not Detected**  
HIV 1 & 2: **Non-Reactive**  
Hepatitis B: **Non-Reactive**  
Urinalysis: **Normal**

Gonorrhea: **Not Detected**  
CMV total antibody: **Negative**  
Hepatitis C: **Non-Reactive**  
Chem panel: **Normal**

Syphilis: **Non-Reactive**  
HTLV 1 & 2: **Non-Reactive**  
CBC: **Normal**

## GENETIC SCREENING RESULTS

*Genetic screening tests can significantly reduce, but never completely eliminate, the chance that a person is a carrier for a particular disorder.*

Expanded carrier screening for 525 autosomal recessive conditions was completed by Invitae and reported on 10/12/2023. The results were **POSITIVE** for **CFTR-related conditions (non-classic)**. The donor is a carrier for these conditions.

The specific mutation in CFTR is predicted to be a variant that has reproductive implications if the recipient is a carrier for certain mutations in the CFTR gene. Defects in the CFTR gene can cause cystic fibrosis (classic and non-classic forms) as well as congenial, bilateral absence of the vas deferens which causes infertility in males.

*It is recommended recipients undergo carrier screening for CFTR-related conditions that include PolyT and TG tract analysis. It is also recommended to discuss these results with a certified genetic counselor to accurately interpret and review the test results.*

Testing was negative for the remainder of genes screened.

| Disease                                      | Result  | Residual risk to be a carrier (based on European ancestry) |
|--|---|--|
| <b>CFTR-related conditions (non-classic)</b> | <b>POSITIVE (5T; 12 TG)</b>   | n/a  |
| <b>Spinal Muscular Atrophy</b>               | Negative: 2 copies exon 7<br>c.*3+80T>G variant<br><br>not detected | 1 in 4,400   |
| <b>HBB Hemoglobinopathies</b>                | Negative  | 1 in 4,800   |
| <b>Alpha Thalassemia</b>                     | Negative  | Reduced  |

Please refer to the donor's Invitae expanded carrier test report for more information on the testing completed and the donor's results.

## DONOR NARRATIVE: 6164

*The content of this narrative has not been altered by TSBC staff. It reflects the original written work of the Donor.*

**Describe your personality: introvert, extrovert, funny, serious, goal-oriented, curious, shy, etc.**

I'm fairly introverted in group settings, but I can be very lively, witty and silly with friends and family. Friends have often commented that they feel they can be open with me because I'm never judgmental and I care so much about their feelings and perspective. I've officiated 3 weddings for close friends like those. I value being

receptive and humble and not taking myself too seriously. In my professional life I'm often complimented for being a leader/mentor that tries to make sure everyone feels heard and understood. Around kids and pets I transform into a shamelessly goofy and playful person.

### What are your interests and talents?

I love the water, spending time near the ocean, rivers and lakes. I like kayaking and fishing and I scuba dive when I can. I'm fairly outdoorsy, driving up and down the west coast, hiking and exploring. Food is another passion: finding great restaurants, cooking and gardening when I get a chance. Generally I love digging deep on any hobby and nerding out on the nuances and details. Though my career has centered around computers and math I spend a lot of time reading about science and medicine as well (as a layperson).

### What are some of your goals and ambitions in life? Where do you see yourself in 5 or 10 years?

I'm already at roughly the peak of where I aspired to be in my current engineering career, so I'm looking for a challenge and fresh meaning in a new, but neighboring field. In 5 to 10 years there's a good chance I'll be pursuing either data science, biotechnology, green energy, robotics or some type of scientific research, though I honestly have no idea which yet. I care a lot about the impact my work has, so I would ideally be contributing to technology that's life saving or life changing for someone or has a positive impact on the environment, but I'm keeping an open mind about where my next career might take me. I'd like to start my own family at some point during that time, so I hope I'll be raising a kid or two myself.

### How would you describe your skills and interests in the following areas?

**Math:** I majored in Math/Engineering/Statistics in college. Those have all been natural talents for me.

**Mechanical:** I generally feel confident and enjoy working with tools, cars, electronics, etc. in various small projects like home improvement, though I'm not an expert in any one skill.

**Athletic:** I've run a few half marathons and running suits me naturally. Though I lift some weights I find climbing more interesting.

**Musical, Artistic, Creative:** I consume art more than create it. I'm interested in a range of music and I collect David Lance Gaines prints and some of my donor father's sculptures.

**Language (what languages besides English do you speak?):** Just English

**Writing:** I've only taken standard college writing classes, but I've been slowly writing a fictional book for years that I don't necessarily expect to ever be published.

**Literature:** I mostly enjoy audiobooks on long drives now. Usually non-fiction, but I enjoy a range of fiction too.

**Science:** I'm fascinated by biology, medicine, climate change and physics. I'll often read or watch documentaries on those topics, but I haven't made them academic or career focuses.

### Please list a few of your favorite:

**Movies:** Pixar, Hot Fuzz, Miyazaki movies, Guy Ritchie, Wes Anderson, Juno, Disney's Robinhood (with the foxes)

**Books/Authors:** Gödel Escher Bach, Cryptonomicon, Snow Crash, Frankenstein, George Gamow, The Code Book

**Albums/Musicians/Performances:** The Beatles, The Verve, Etta James, Johnny Cash, The Distillers, CCR, Van Morrison, Velvet Underground, No Doubt, NOFX

## What are a few of your reasons for becoming a sperm donor?

As a donor conceived child, I decided I want to pay back what I'm most grateful for myself. I know anyone who seeks out a donor is passionate about being a parent, which is why donor parents will always be some of the most thoughtful and caring parents. I believe anyone that wants to raise a child and help them thrive should get an equal opportunity. Being a donor is an opportunity for me to help lower that barrier for someone else. I wouldn't be here unless someone had done the same for me and my family.

## You have joined the Identity-Release® Program . What appeals to you about this program?

I appreciate the program because of my own experience meeting my own donor when I was 30yo. The program I was conceived from was intended to be completely, permanently anonymous. Though I was curious to meet my donor (and I later found out he hoped to meet me), it wasn't able to until online DNA testing made it possible to find each other.

I fully appreciate the value of having access to a family medical history, but I also see meeting donor relatives as a novel and entertaining experience. Meeting my donor satisfied all kinds of curiosity and made the story of my life a little more interesting and amusing. I've really enjoyed knowing my donor and I would feel similarly warm about the possibility of meeting any donor conceived child someday (though I'm holding no expectations).

## Is there anything else you would like to share with participating families and future donor conceived children?

I just want to wish any future parents reading this may years of joy and love raising their kids. Kids grow up too fast and I hope you'll treasure every day of every precious phase of their lives.

I hope any donor conceived children will know their parents must have really wanted them. Though being donor conceived doesn't change anything about your relationship with your family, I think it's a charming twist that makes life a little more interesting.

**THANK YOU!**



Reproductive Technologies, Inc.

# THE SPERM BANK OF CALIFORNIA

## HEALTH PROBLEMS LIST DONOR 6164

*Donor 6164 is donor-conceived. For the purposes of health issues his donor is listed as Donor Father. Paternal relatives are on his donor's biological side.*

### DONOR

***Problem/Diagnosis: Depression***

Age of Onset: 16

Treatment: Bupropion, Ketamine (SSRIs and TMS tried in the past)

Outcome: Depression is persistent, but responsive to treatment

***Problem/Diagnosis: High cholesterol***

Age of Onset: 31 (first detected)

Treatment: 10mg of atorvastatin

Outcome: Effectively treated, LDL-C decreased from ~160-175 mg/dL to ~85 mg/dL. NMR lipid profile indicates lower risk than LDL-C alone implies.

***Problem/Diagnosis: Gynecomastia***

Age of Onset: 31

Treatment: Cosmetic surgery for excess tissue removal

Outcome: Did not reoccur

***Problem/Diagnosis: Cat, Pollen and Dust allergies***

Age of Onset: 15

Treatment: Claritin to manage symptoms

Outcome: Allergies stopped age 30

### MOTHER

***Problem/Diagnosis: Diabetes (type 2 NIDDM)***

Age of Onset: 55

Treatment: Metformin, Jardiance

Outcome: Managed

***Problem/Diagnosis: Breast Cancer***

Age of Onset: 63

Treatment: Chemo, radiation, Anastrozole

Outcome: Remission

***Problem/Diagnosis: High Cholesterol***

Age of Onset: 55  
Treatment: Statin  
Outcome: Managed

***Problem/Diagnosis: Osteoarthritis***

Age of Onset: 65  
Treatment: Hip replacement  
Outcome: Successful treatment

---

**DONOR FATHER**

***Problem/Diagnosis: Osteoarthritis***

Age of Onset: 70  
Treatment: Splint on wrist  
Outcome: Wrist continues to be sensitive to heavy use

***Problem/Diagnosis: Skin Cancer (basal cell)***

Age of Onset: 64  
Treatment: Excised  
Outcome: Successful

***Problem/Diagnosis: Arrhythmia***

Age of Onset: 65  
Treatment: Untreated minor arrhythmia  
Outcome: Monitored

***Problem/Diagnosis: Pre-glaucoma***

Age of Onset: 65  
Treatment: Eye drops  
Outcome: Managed

---

**MATERNAL GRANDMOTHER**

***Problem/Diagnosis: Heart Disease (lifestyle)***

Age of Onset: 65  
Treatment: Statin  
Outcome: Managed cholesterol

***Problem/Diagnosis: Coronary Artery Disease***

Age of Onset: 65  
Treatment: Carotid artery surgery  
Outcome: Successful treatment



***Problem/Diagnosis: High Blood Pressure***

Age of Onset: 55  
Treatment: Medication  
Outcome: Managed with continued medication

***Problem/Diagnosis: Stroke***

Age of Onset: 88  
Treatment: Blood thinner  
Outcome: Managed

***Problem/Diagnosis: Appendicitis***

Age of Onset: 22  
Treatment: Surgery  
Outcome: Successful treatment

***Problem/Diagnosis: Dementia***

Age of Onset: 88  
Treatment: Namenda, Aricept  
Outcome: Slowed progression

***Problem/Diagnosis: Osteoarthritis***

Age of Onset: 70  
Treatment: Tylenol  
Outcome: Managed

***Problem/Diagnosis: Gallbladder Disease***

Age of Onset: 66  
Treatment: Surgery  
Outcome: Successful

***Problem/Diagnosis: Pneumonia***

Age of Onset: 93  
Treatment: Hospice  
Outcome: Deceased

---

**MATERNAL GRANDFATHER**

***Problem/Diagnosis: Tuberculosis***

Age of Onset: 7  
Treatment: Unknown (occurred in 1926)  
Outcome: Cured

***Problem/Diagnosis: Coronary Artery Disease***

Age of Onset: 75  
Treatment: Double bypass surgery

Outcome: Successful treatment

***Problem/Diagnosis: Stroke***

Age of Onset: 90  
Treatment: Blood thinner  
Outcome: Managed

***Problem/Diagnosis: Prostate Cancer***

Age of Onset: 70  
Treatment: Surgery  
Outcome: Successful

***Problem/Diagnosis: Pneumonia***

Age of Onset: 94  
Treatment: Hospice  
Outcome: Deceased

---

**MATERNAL UNCLE #1**

***Problem/Diagnosis: Diabetes (type 1)***

Age of Onset: 8  
Treatment: Insulin  
Outcome: Managed

***Problem/Diagnosis: Heart Attack***

Age of Onset: 65  
Treatment: Medication and stents  
Outcome: Deceased

***Problem/Diagnosis: Coronary Artery Disease***

Age of Onset: 55  
Treatment: Statin  
Outcome: Managed

***Problem/Diagnosis: Heart Disease (lifestyle)***

Age of Onset: 55  
Treatment: Triple bypass, toe amputation for peripheral artery disease  
Outcome: Successful treatment

***Problem/Diagnosis: High Blood Pressure***

Age of Onset: 60  
Treatment: Medication  
Outcome: Managed

***Problem/Diagnosis: High Cholesterol***

Age of Onset: 55  
Treatment: Medication  
Outcome: Managed

***Problem/Diagnosis: Asthma***

Age of Onset: 60 (from smoking)  
Treatment: Inhaler medication  
Outcome: Managed

---

**MATERNAL UNCLE #2**

***Problem/Diagnosis: Heart Attack***

Age of Onset: 65  
Treatment: Stents  
Outcome: Successful

***Problem/Diagnosis: Asthma (childhood)***

Age of Onset: 1  
Treatment: Outgrew symptoms  
Outcome: Outgrew symptoms

***Problem/Diagnosis: High Blood Pressure***

Age of Onset: 55  
Treatment: Medication  
Outcome: Managed

***Problem/Diagnosis: Heart Disease (lifestyle)***

Age of Onset: 50  
Treatment: Statin  
Outcome: Managed

***Problem/Diagnosis: High Cholesterol***

Age of Onset: 50  
Treatment: Statin  
Outcome: Managed

***Problem/Diagnosis: Diabetes (type 2 NIDDM)***

Age of Onset: 56  
Treatment: Metformin  
Outcome: Managed

---

**MATERNAL COUSIN #1**

***Problem/Diagnosis: ADHD***

Age of Onset: 30

Treatment: Medication  
Outcome: Managed

---

## MATERNAL COUSIN #2

***Problem/Diagnosis: Celiac Disease***

Age of Onset: 36  
Treatment: Diet  
Outcome: Managed

***Problem/Diagnosis: Asthma***

Age of Onset: 1  
Treatment: Inhaler  
Outcome: Managed

***Problem/Diagnosis: Anxiety***

Age of Onset: early 30's  
Treatment: Medication  
Outcome:

---

## MATERNAL COUSIN #3

***Problem/Diagnosis: Diabetes (type 2 NIDDM)***

Age of Onset: 31  
Treatment: Metformin  
Outcome: Managed

***Problem/Diagnosis: ADHD***

Age of Onset: 30  
Treatment: Adderall  
Outcome: Managed

***Problem/Diagnosis: Depression***

Age of Onset: 32  
Treatment: SNRI  
Outcome: Managed

---

## PATERNAL GRANDMOTHER

***Problem/Diagnosis: Breast Cancer***

Age of Onset: 75  
Treatment: Chemo, radiation, medication  
Outcome: Deceased at 79

***Problem/Diagnosis: Glaucoma***

Age of Onset: 65  
Treatment: Eye drops  
Outcome: Managed

---

## PATERNAL GRANDFATHER

### ***Problem/Diagnosis: Heart Disease (lifestyle)***

Age of Onset: 70  
Treatment: Quadruple bypass, medication  
Outcome: Successful treatment

### ***Problem/Diagnosis: Coronary Artery Disease***

Age of Onset: 70  
Treatment: Quadruple bypass, medication  
Outcome: Successful treatment

### ***Problem/Diagnosis: Stroke***

Age of Onset: 87  
Treatment: Hospitalization  
Outcome: Deceased

### ***Problem/Diagnosis: Lymphoma***

Age of Onset: 80  
Treatment: Likely chemo  
Outcome: Remission

### ***Problem/Diagnosis: Skin Cancer (basal cell)***

Age of Onset: 75  
Treatment: Excised  
Outcome: Successful

### ***Problem/Diagnosis: Macular Degeneration***

Age of Onset: 85  
Treatment: Unknown  
Outcome: Lived with symptoms

---

## PATERNAL AUNT #4

### ***Problem/Diagnosis: Breast Cancer***

Age of Onset: 45  
Treatment: Chemo, radiation, medication  
Outcome: Remission

**PATERNAL UNCLE #3**

***Problem/Diagnosis: Coronary Artery Disease***

Age of Onset: 65

Treatment: Quadruple bypass

Outcome: Successful

***Problem/Diagnosis: Heart Disease***

Age of Onset: 65

Treatment: Likely statin

Outcome: Managed

***Problem/Diagnosis: High Cholesterol***

Age of Onset: 65

Treatment: Likely statin

Outcome: Managed

---

**PATERNAL COUSIN #15**

***Problem/Diagnosis: Lymphoma***

Age of Onset: 27

Treatment: Chemo

Outcome: Ongoing, recently diagnosed, prognosis is good

**CONCLUSION**

The family medical history information has been self-reported by the donor. We work with each donor to obtain as complete and accurate information as possible. Still, we cannot rule out the existence of other health information that is not known or that remains unreported to us. As a board-certified genetic counselor, I have reviewed this donor's family medical history for identifiable patterns of inheritance that may place the donor or his biological offspring at increased risk for certain health problems. ("Increased risk" is greater than the general population's risk). The majority of health conditions disclosed from DIS 6164 are not predicted to confer a higher risk to offspring above what is seen in the general population. As reported, DIS 6164's personal and family history is notable for gynecomastia, depression, early-onset breast cancer, and cardiac disease. There may be an increased reproductive risk to offspring for these conditions.

**Gynecomastia:** DIS 6164 has a personal history of gynecomastia, a condition where men's glandular breast tissue increases. It's often due to an imbalance of hormones. The donor reports the underlying cause was never determined. There was a transient increase in his prolactin levels, which resolved and may have led to the development of gynecomastia. There are some genetic causes for gynecomastia, such as Klinefelter's syndrome (also known as 47, XXY syndrome ). It is very unlikely the donor is affected by this condition as one of the primary features of Klinefelter syndrome is low or absent sperm. The chance for male offspring to also be affected by gynecomastia is likely at or near the general population risk.

**Depression:** The donor reports being affected by depression since his teen years. He manages his mental health with antidepressants. He reports his depression is persistent but responsive to treatment. The general population risk for depression is estimated to be between 10-25%, with more recent 2023 estimates putting the number around 36% for women and 25% for men. Twin and family studies suggest the heritability of depression is around 35%, while more DNA-based heritability studies (genome-wide association studies or GWAS) put the heritability at about 9%. With current data, it's reasonable to expect the risk to offspring being affected by depression may be higher than the general population risk. However, with a rise in levels of clinically diagnosed depression, the empirical risk (5-30%) and population risks (10-36%) currently overlap.

**Early Onset Breast Cancer:** DIS 6164 has a paternal aunt who was affected with breast cancer at age 45. This cancer is early onset, and there is a risk for her cancer to be associated with a hereditary cancer syndrome. However, this individual would be a third-degree relative to any offspring of DIS 6164. This degree of relation is distant enough that the risk for breast cancer is at or near the general population risk of 12% for women. The other instances of breast cancer (the donor's mother and paternal grandmother) are not considered early onset and, thus, are more likely to be from sporadic causes.

**Heart and coronary artery disease:** heart disease, including coronary artery disease, affects nearly 1 in 2 adults over 65. DIS 6164 has multiple family members affected with heart disease and coronary artery disease, all of whom are 3rd or 4th-degree relatives to the offspring. All of these affected family members were over the age of 50, and many were over the age of 65 when their CAD was diagnosed. Heart and coronary artery disease are very common medical conditions and the leading cause of death in the United States. It's a multifactorial condition, meaning environment, lifestyle, and genetics can play a role in the development of the disease. Based on this family medical history, the chance for DIS 6164's offspring to also be affected with heart disease may be higher than the general population.

Sincerely,

Janine Mash, LCGC Certified Genetic Counselor

San Francisco Genetic Counseling