



# **Animal Models for the Study of Human Disease: Chapter 21. Animal Models of Calcium Oxalate Kidney Stone Formation**

*Saeed R. Khan*

[Download now](#)

[Click here](#) if your download doesn't start automatically


# Animal Models for the Study of Human Disease: Chapter 21. Animal Models of Calcium Oxalate Kidney Stone Formation

*Saeed R. Khan*

## **Animal Models for the Study of Human Disease: Chapter 21. Animal Models of Calcium Oxalate Kidney Stone Formation** Saeed R. Khan

Most kidney stones consist of crystals of calcium oxalate (CaOx) and/or calcium phosphate (CaP), and develop on nidi present on renal papillary surfaces. Stone formation is the last stage in a long process starting with development of supersaturation followed by nucleation, growth, aggregation and retention of crystals within the kidneys. A number of animal models utilizing mice, pigs, rabbits and rats, (the most common model), have been developed to understand stone pathogenesis. Animals produce crystalline deposits in the kidneys rather than typical stones attached to the papillary surface. Still, there are many common features between human and rat CaOx nephrolithiasis. Both kidney stones in humans and crystal deposits in the rats have an organic matrix comprised of lipids, carbohydrate and proteins. The crystallization in both human and rat kidneys is modulated by molecules such as osteopontin, Tamm–Horsfall Proteins, inter-alpha-inhibitor, and prothrombin fragment-1 and is associated with enzymuria of proximal tubular origin. Hyperoxaluria, hypercalciuria, hypomagnesuria and hypocitraturia are implicated in both humans and rats. CaOx stones/renal deposits are common in males of both species while females of both species produce CaP stones/renal deposits.

 [Download Animal Models for the Study of Human Disease: Chap ...pdf](#)

 [Read Online Animal Models for the Study of Human Disease: Ch ...pdf](#)

## **Download and Read Free Online Animal Models for the Study of Human Disease: Chapter 21. Animal Models of Calcium Oxalate Kidney Stone Formation Saeed R. Khan**

---

### **From reader reviews:**

#### **Ronald Castaneda:**

Hey guys, do you wish to find a new book to study? Maybe the book with the headline Animal Models for the Study of Human Disease: Chapter 21. Animal Models of Calcium Oxalate Kidney Stone Formation suitable to you? Often the book was written by famous writer in this era. The book entitled Animal Models for the Study of Human Disease: Chapter 21. Animal Models of Calcium Oxalate Kidney Stone Formation is one of several books which everyone reads now. This specific book has inspired lots of people in the world. When you read this publication you will enter the new dimension that you never knew previously. The author explained their thoughts in a simple way, therefore all of us can easily know the core of this guide. This book will give you a large amount of information about this world now. So you can see the representation of the world on this book.

#### **Shay Price:**

Are you kind of a busy person, only have 10 or 15 minutes in your morning to upgrade your mind skills or thinking skills possibly analytical thinking? Then you are experiencing a problem with the book in comparison with what can satisfy your short span of time to read it because all of this time you only find a publication that needs more time to be studied. Animal Models for the Study of Human Disease: Chapter 21. Animal Models of Calcium Oxalate Kidney Stone Formation can be your answer because it can be read by you actually who have those short free time problems.

#### **Chad Steinberger:**

You may spend your free time to read this book in this publication. This Animal Models for the Study of Human Disease: Chapter 21. Animal Models of Calcium Oxalate Kidney Stone Formation is simple to create you can read it in the recreation area, in the beach, train in addition to soon. If you did not have much space to bring the particular printed book, you can buy typically the e-book. It is made simpler to read it. You can save often the book in your smart phone. So there are a lot of benefits that you will get when you buy this book.

#### **Faye Michaels:**

Do you like reading a publication? Confused to looking for your chosen book? Or your book ended up being rare? Why so many problems for the book? But almost any people feel that they enjoy regarding reading. Some people like studying, not only science books and also novels and Animal Models for the Study of Human Disease: Chapter 21. Animal Models of Calcium Oxalate Kidney Stone Formation or other sources were given know-how for you. After you know how truly great a book is, you feel you would like to read more and more. Science guides were created for teachers or maybe students especially. Those guides are helping them to bring their knowledge. In other cases, besides science books, any other book like Animal Models for the Study of Human Disease: Chapter 21. Animal Models of Calcium Oxalate Kidney Stone Formation to

make your spare time a lot more colorful. Many types of book like this one.

**Download and Read Online Animal Models for the Study of Human Disease: Chapter 21. Animal Models of Calcium Oxalate Kidney Stone Formation Saeed R. Khan #PGFA42KUB70**

## **Read Animal Models for the Study of Human Disease: Chapter 21. Animal Models of Calcium Oxalate Kidney Stone Formation by Saeed R. Khan for online ebook**

Animal Models for the Study of Human Disease: Chapter 21. Animal Models of Calcium Oxalate Kidney Stone Formation by Saeed R. Khan Free PDF d0wnl0ad, audio books, books to read, good books to read, cheap books, good books, online books, books online, book reviews epub, read books online, books to read online, online library, greatbooks to read, PDF best books to read, top books to read Animal Models for the Study of Human Disease: Chapter 21. Animal Models of Calcium Oxalate Kidney Stone Formation by Saeed R. Khan books to read online.

### **Online Animal Models for the Study of Human Disease: Chapter 21. Animal Models of Calcium Oxalate Kidney Stone Formation by Saeed R. Khan ebook PDF download**

**Animal Models for the Study of Human Disease: Chapter 21. Animal Models of Calcium Oxalate Kidney Stone Formation by Saeed R. Khan Doc**

**Animal Models for the Study of Human Disease: Chapter 21. Animal Models of Calcium Oxalate Kidney Stone Formation by Saeed R. Khan Mobipocket**

**Animal Models for the Study of Human Disease: Chapter 21. Animal Models of Calcium Oxalate Kidney Stone Formation by Saeed R. Khan EPub**