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★ Kidney stones (Thorleifsson, 2009)

Gudmar Thorleifsson, et al.
Nature Genetics

Bones Kidneys

STUDY SUMMARY

The risk of developing kidney stones is increased with a genetic variant in the CLDN14 gene.

STUDY DESCRIPTION

Kidney stone disease is a common condition in which hard deposits made of minerals and salts - usually calcium oxalate - build up in the kidneys. Few genetic variants that correlate to a person's risk of developing kidney stones have been found. To discover such factors, this study examined 46,283 individuals from Iceland and the Netherlands. This study identified a genetic variant in the CLDN14 gene that appears to be correlated with an increased risk of kidney stones. This gene is expressed in the loop of Henle (part of the kidney, where water and salts are reabsorbed into the blood) and is thought to help with calcium transport. This variant was also associated with urine calcium levels and reduced *bone mineral density*.

DID YOU KNOW?


Drinking plenty of water is one of the best ways to ensure you do not develop kidney stones. Other preventative measures include reducing sodium and red meat in your diet and pairing calcium-rich foods with oxalate-rich foods (like spinach, peanuts, rhubarb, and chocolate).

YOUR DETAILED RESULTS

The variants highlighted in green have **positive effect sizes** and increase your genetic predisposition to kidney stones. The variants highlighted in blue have **negative effect sizes** and decrease your genetic predisposition to kidney stones. Variants that are not highlighted are not found in your genome and do not affect your genetic predisposition to kidney stones. However, please note that genetic predispositions do not account for important non-genetic factors like lifestyle. Furthermore, the genetics of most traits has not been fully understood yet and many associations between traits and genetic variants remain unknown. For additional explanations, click on the column titles in the table below and visit our [Nebula Library tutorial](#).



Kidney Stone Fragments

| VARIANT [ⓘ] | YOUR GENOTYPE [ⓘ] | EFFECT SIZE [ⓘ] | VARIANT FREQUENCY [ⓘ] | SIGNIFICANCE [ⓘ] |
|--|----------------------------|--------------------------|--------------------------------|---------------------------|
| rs219779_G  | G / A | 0.21 (↑) | 76% | 1.70×10^{-12} |