

# Breast milk calcium mystery revealed

May 7 2015, by Robert Burgin

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UQ researchers have discovered how calcium is transferred into mother's milk.

Breakthrough research at the University of Queensland has unlocked a mysterious process essential to breastfeeding.

School of Pharmacy trio Dr Felicity Davis, Professor Gregory Monteith and Professor Sarah Roberts-Thomson have combined to explain how calcium is transferred into mother's milk.

The discovery could have implications for [cancer treatment](#).

"Using rodent models, we have demonstrated that at least 50 per cent of [calcium ions](#) in a mother's milk comes from one specific protein called

Orai1," Dr Davis said.

"There's also an unanticipated revelation that Orai1 is a master regulator of milk ejection and pivotal to the survival of mammalian young.

"Inadvertently, a better understanding of mammary gland biology and lactation will help us identify processes that may be important in some breast cancers."

The study, which involved researchers in North Carolina and New York, is published as the Essential role of Orai1 store-operated calcium channels in lactation in *Proceedings of the National Academy of Sciences*.

**More information:** "Essential role of Orai1 store-operated calcium channels in lactation." *PNAS* 2015 112 (18) 5827-5832; published ahead of print April 20, 2015, [DOI: 10.1073/pnas.1502264112](https://doi.org/10.1073/pnas.1502264112)

Provided by University of Queensland

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