# Article information:

Variants in ALDH1A2 reveal an anti-inflammatory role for retinoic acid and a new class of disease-modifying drugs in osteoarthritis | Science Translational Medicine  
<https://www.science.org/doi/10.1126/scitranslmed.abm4054>

# Article summary:

1. Common polymorphic variants in ALDH1A2, which encodes the key enzyme for synthesis of all-trans retinoic acid (atRA), are associated with severe hand OA.

2. Articular cartilage injury up-regulated inflammatory genes and was associated with a concomitant drop in atRA-inducible genes.

3. Administration of a retinoic acid metabolism blocking agent (RAMBA), talarozole, reduced cartilage injury and inflammation through a peroxisome proliferator–activated receptor gamma (PPARγ)–dependent mechanism in both mouse and pig joints in vivo and ex vivo, respectively.

# Article rating:

Appears well balanced: The article presents the information in a reliable and balanced way, without biases and prejudices. The claims made in the article are well supported and, where applicable, all sides of the argument are given opportunity to present their point of view. The article appears trustworthy and reliable.

# Article analysis:

The article “Variants in ALDH1A2 reveal an anti-inflammatory role for retinoic acid and a new class of disease-modifying drugs in osteoarthritis” is generally reliable and trustworthy. The authors provide evidence to support their claims that common polymorphic variants in ALDH1A2 are associated with severe hand OA, that articular cartilage injury up-regulates inflammatory genes, and that administration of a retinoic acid metabolism blocking agent (RAMBA) can reduce cartilage injury and inflammation through a PPARγ-dependent mechanism. The authors also provide references to back up their claims, as well as supplementary materials such as figures, tables, methods, etc., to further support their findings.

The article does not appear to be biased or one-sided; it presents both sides of the argument equally by providing evidence for both the association between ALDH1A2 risk variants and hand OA as well as the potential benefits of RAMBAs for treating OA. Furthermore, the authors note possible risks associated with RAMBAs such as adverse effects on bone health or other organs due to long term use.

The only potential issue with this article is that it does not explore any counterarguments or alternative explanations for its findings; however, this is likely due to space constraints rather than any bias on the part of the authors. All in all, this article appears to be reliable and trustworthy overall.

# Topics for further research:

* ALDH1A2 polymorphism
* Osteoarthritis risk factors
* Retinoic acid metabolism
* PPARγ-dependent mechanism
* RAMBA adverse effects
* Alternative treatments for OA

# Report location:

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