# Article information:

Balancing selection maintains diversity in a cold tolerance gene in broadly distributed live oaks  
<https://cdnsciencepub.com/doi/full/10.1139/gen-2016-0208>

# Article summary:

1. The article examines the effects of cold on two cold response candidate genes, ICE1 and HOS1, in seven species of American live oaks (Quercus subsection Virentes).

2. At a shallow evolutionary timescale, balancing selection was observed in HOS1 in two broadly distributed species.

3. At a deeper evolutionary scale, negative selection was observed in ICE1 while three positively selected codons were identified in HOS1.

# Article rating:

May be slightly imbalanced: The article presents the information in a generally reliable way, but there are minor points of consideration that could be explored further or claims that are not fully backed by appropriate evidence. Some perspectives may also be omitted, and you are encouraged to use the research topics section to explore the topic further.

# Article analysis:

The article is generally reliable and trustworthy as it provides evidence for its claims through the use of data from two evolutionary timescales and codon-based models of evolution. The authors also provide a clear explanation of their methods and results, which makes it easy to follow their argument. However, there are some potential biases that should be noted. For example, the authors focus solely on the effects of cold on two specific genes without considering other factors that may influence cold tolerance such as drought or heat stress. Additionally, the article does not explore any counterarguments or present both sides equally; instead it focuses solely on supporting its own argument. Finally, there is no mention of possible risks associated with the findings presented in the article. All these points should be taken into consideration when evaluating the trustworthiness and reliability of this article.

# Topics for further research:

* Cold tolerance in plants
* Drought tolerance in plants
* Heat stress in plants
* Evolutionary timescales
* Codon-based models of evolution
* Risks associated with cold tolerance in plants

# Report location:

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