# Article information:

Dysregulation of REV-ERBα impairs GABAergic function and promotes epileptic seizures in preclinical models | Nature Communications  
<https://www.nature.com/articles/s41467-021-21477-w>

# Article summary:

1. Temporal lobe epilepsy (TLE) is a serious chronic neurological disorder that affects ~50 million people worldwide.

2. Evidence suggests a critical role of GABA in epilepsy and epileptogenesis, and AEDs such as benzodiazepines and barbiturates act to promote the binding of GABA to GABA receptors.

3. This study investigated a potential role of Rev-erbα, a ligand-responsive clock component, in circadian regulation of epileptic seizures, finding that REV-ERBα/Rev-erbα was upregulated in human and mouse epileptic tissues, and Rev-erbα ablation or antagonism reduced the sensitivity of mice to acute and chronic seizures.

# 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:

This article provides an overview of the potential role of Rev-erbα in circadian regulation of epileptic seizures. The authors present evidence from both human and mouse studies to support their hypothesis that dysregulation of REV-ERBα impairs GABAergic function and promotes epileptic seizures in preclinical models.

The article is generally well written and provides sufficient evidence for its claims. The authors provide detailed information on the methods used for data collection, analysis, and interpretation, which adds to the trustworthiness of the article. Furthermore, they provide references for all sources used throughout the paper, which further strengthens its reliability.

However, there are some points that could be improved upon in order to make the article more reliable. For example, while the authors discuss possible risks associated with Rev-erbα ablation or antagonism, they do not explore any potential risks associated with Rev-erbα activation or overexpression. Additionally, while they discuss how AEDs such as benzodiazepines and barbiturates act to promote the binding of GABA to GABA receptors, they do not explore any other potential mechanisms by which these drugs may affect seizure activity or epileptogenesis. Finally, while they discuss how jet lag can disrupt diurnal expressions of clock genes in the hippocampus and cortex – particularly Rev-erbα – they do not explore any other potential effects that jet lag may have on seizure activity or epileptogenesis.

In conclusion, this article provides an overview of the potential role of Rev-erbα in circadian regulation of epileptic seizures with sufficient evidence for its claims; however there are some points that could be improved upon in order to make it more reliable.

# Topics for further research:

* Rev-erbα activation risks
* Mechanisms of antiepileptic drugs
* Jet lag effects on epileptogenesis
* GABAergic function and epileptic seizures
* Rev-erbα ablation risks
* Diurnal expression of clock genes in epilepsy

# Report location:

<https://www.fullpicture.app/item/8efa4e08e2c6561c384018bb0d2adda0>