# Methylenetetrahydrofolate reductase (MTHFR) Deficiency in Epileptic Children

**Ehesis** 

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In Pediatrics

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## s Ja

My Father and My Mother whose patience and support helped me alot and always being there when I needed them

s Ja

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## List of Abbreviations

**Ado-Hcy**: Adenosylhomocysteine.

**AEDs** : Antiepileptic drugs.

**AMPA** : Amino-3hydroxy-5-methyl-isoxasole propionic.

**AS** : Absence seizures.

**BHMT** : Betaine-homocysteine methyltransferase.

**CBS** : Cystathionine beta synthase.

**CBZ** : Carbamazepine.

CH3-B12 : Methyl cobalamin.

**CHRNA** : Neuronal nicotinic acetylcholine receptor gene.

**CLCN2** : Voltage-gated chloride channel.

**COX** : Cytochrome oxidase.

**CAE** : Childhood absence epilepsy.

**CSF** : Cerebrospinal fluid.

**CLP** : Clonazepam.

**DHFR** : Dihydrofolate reductase.

**EEG** : Electroencephalogram.

**EFHC**<sub>1</sub>: Human ef-hand domain-containing protein

1(efhc1).

**EPSP** : Excitory postsynaptic potentials.

**ETX** : Ethosuximide.

**FAD** : Flavin adenine dinucleotide.

#### 🕏 List of Abbreviations 🗷

**GABA** : Gamma-aminobutyric acid.

**GABRG**: Gamma gaba receptor gene.

**GAD** : Glutamate acid decarboxylase

**GTC** : Generalized tonic clonic.

**GSH** : Glutathione.

**Hcy** : Homocysteine.

**HDAC**: Histone deacetylase.

**HVA** : High voltage activated.

**IBE** : International bureau for epilepsy.

**ILAE** : The international league against epilepsy.

**IBE** : International Bureau for epilepsy.

**IPSP**: Inhibitory postsynaptic potentials.

**IGE** : Idiopathic generalized epilepsy.

**KCNQ** : K<sup>+</sup>channel genes.

**LGI**: Leucine-rich glioma-inactivited.

**LMG**: Lamotrigine.

**LVT** : Levetiracetam.

**Met** : Methionine.

**M-Glu Rs** : Metabotropic glutamate receptors.

MS : Methionine synthase

**MTHFD** : Methyltetrahydrofolate dehydrogenase.

**NMDA** : N-methyl-d-aspartate.

#### Suist of Abbreviations &

**Non-REM**: Non-rapid eye movement.

**PET** : Positron emission tomography.

**PHT**: Phenytoin.

**PLP**: Pyridoxal-5-phosphate.

**SAH** : S-adenosylhomocysteine.

**SAM** : S-adenosyl-methionine.

**SCNA** : Voltage- gated sodium channel subunit gene.

**SOD** : Superoxide dismutase.

**SPS**: Simple partial seizures.

**THF**: Tetrahydrofolate.

**TCS**: Tonic-clonic seizures.

**TMP** : Topiramate.

**VPA** : Valproic acid.

**ZNS**: Zonisamide.

**5,10 MTHFR** : 5,10 methylenetetrahydrofolate

**5-HT** : 5 hydroxy tryptamine.

**5-MTHF** : 5-methyltetrahydrofolate.

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