

# ALS Primary Epigenetic Factors

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Using quantum biology modeling, the known epigenetic marker variables for ALS have been assembled for review and discussion by computational biologists for use in the identification of a near certain primary cause of ALS.

- Aggregation of **TDP43** is the result of kinase activity and disruption of **SOD1** for intracellular activation of autophagy. Many studies link **TDP43** to tyrosine kinase. The near certain epigenetic signal is **IL-5** based with phenylalanine - tyrosine - tryptophan as the amino acid constituents.
- **SOD1** is can be verified as the designation for intracellular autophagy while **SOD3** is the extracellular equivalent that not require granzymes with lysosomes.
- Various factors can disrupt autophagy. However, **FOXM1** is known to be a factor for many causes of ALS because it is the epigenetic mechanism that can mutate endocytosis<sup>1</sup> that can prevent activation of the lysosomes necessary for autophagy. The granzymes E - G are brought from the cell surface into the cytoplasm by endocytosis when **FOXM1** is not dysfunctional.
- **IL-8** is correlated to ALS because it is the cytokine equivalent to **IL-5** that has all elements (selenium - zinc - iodine) as opposed to **IL-5** that replaces the iodine with the gasotransmitter nitric oxide. **IL-5 and IL-8** are designated as selenoproteins due to their base pair of elements being selenium and zinc.

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<sup>1</sup> <http://www.mcfip.net/upload/Endocytosis%20Modeling%204-30-17.pdf>

- **HDAC-1** is linked to ALS and to **FUS** because it is the designation for **FUS** with the constituents being histidine - **arginine** - lysine.
- **Arginine** is noted because studies have correlated the element to ALS.<sup>2</sup>

## Summary

Verification of the factors outlined in this document can verify the fact that excessive selenium in relation to zinc is a primary factor for ALS.

From where can excessive selenium come?

In humans, trace selenium exists throughout the food chain. However, Brazil nuts are known to have inordinately high levels of the element.

The forms of ALS known to exist in animals (Mad Cow's Disease in cows, Scrapie in sheep and Chronic Wasting Disease in deer) are, with near certainty, the result of the animals eating the herb (weed) gentian that has high levels of selenium.

Note: Details relative to additional sources of selenium in the food chain and their links to ALS can be provided to computational biologists for verification.

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<sup>2</sup> <https://alsnewstoday.com/2019/04/10/arginine-methylation-could-be-linked-to-als-progression-and-prognosis/>