## Multiple Sclerosis (MS): Causal Paths

This document has been prepared in a DIY format to highlight several of the many causal factors for MS identified using quantum biology. To avoid excessive complexity, the findings are segregated into behavioral health that encompasses neuropeptide imbalances for detailed discussion with cognitive neuroscientists (see below) and physiological health. https://www.mcfip.net/upload/Aldosteronism%20Overiew%20x.pdf

## **Physiological Disruptions**

The following quantum biology tool is provided for DIY activities that can be supported by bioinformatics.

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Alignment of Molecules: For Explanation and
                      Discussion
  TNF-Alpha: TGF- Alpha (Calnexin) Density (CD-4)
  Calcium - threonine - magnesium (BRCA1)
  Calcium – serine – magnesium (BRCA2)
  Calcium - cysteine - magnesium (BRCA3)
  TNF-Beta: TGF-Beta (Calmodulin) Motility (CD-8)
  Calcium - phenylalanine - magnesium (HRas) p21
  Calcium – tyrosine – magnesium (KRas)
Calcium – tryptophan – magnesium (NRas)
  TNF-Gamma: TGF-Gamma [VEGF] (Calcineurin)
  Modulatory Enzyme: IFNy (CD-25)
  Iron - serine - Manganese
  Iron - cysteine - Manganese
  Iron - threonine - Manganese
For discussion purposes, examples of alternative
designations for the IFNy "enzymes" that have
evolved include; AKT, mTOR, PTEN, NF-kB, and
MYC.
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Bioinformatic search can correlate all of the following epigenetic markers to MS; calcineurin, TGF $\beta$ , CD8 cells, p21 and IFN $\gamma$ . Additional factors for myelination not illustrated include NUP98 DNA binding (fusion) factors.

MS is a complex disease with multiple causes; most of which are encompasses within this document for discussion with and verification by with qualified computational biologist partners.