Alcoholism is a chronic relapsing disorder with an enormous societal impact. Understanding the genetic basis of alcoholism is crucial to characterize an individual’s risk to develop alcoholism and to develop effective prevention and treatment strategies.

The tendency for drinking patterns of children to resemble those of their parents has been recognized since the time of Plato and Aristotle. Alcoholism has been shown to be a multi-factorial, genetically influenced disorder rather than purely a psychological disorder.

Alcohol Dehydrogenases are a family of enzymes which help in interconversions of alcohols and aldehydes and ketones. There are at least 7 isoforms of Alcohol Dehydrogenase which are encoded by the genes ADH1A, ADH1B, ADH1C, ADH4, ADH5, ADH6 and ADH7.

Edenberg et al found an association between alcohol dependence and several SNPs in the ADH4 gene which encodes the Class II Alcohol Dehydrogenases.

Through Sequence Analysis of normally functioning ADH4 gene and SNP containing ADH4 gene, we inferred the presence of modified substrate binding sites and metal ion binding sites within the Class II Alcohol Dehydrogenase. It can be inferred that these anomalies can interfere in the normal functioning of this enzyme. Hence they can be held responsible, to a certain extent, for causing alcoholism. This also asserts its genetic basis and its hereditary characteristics.