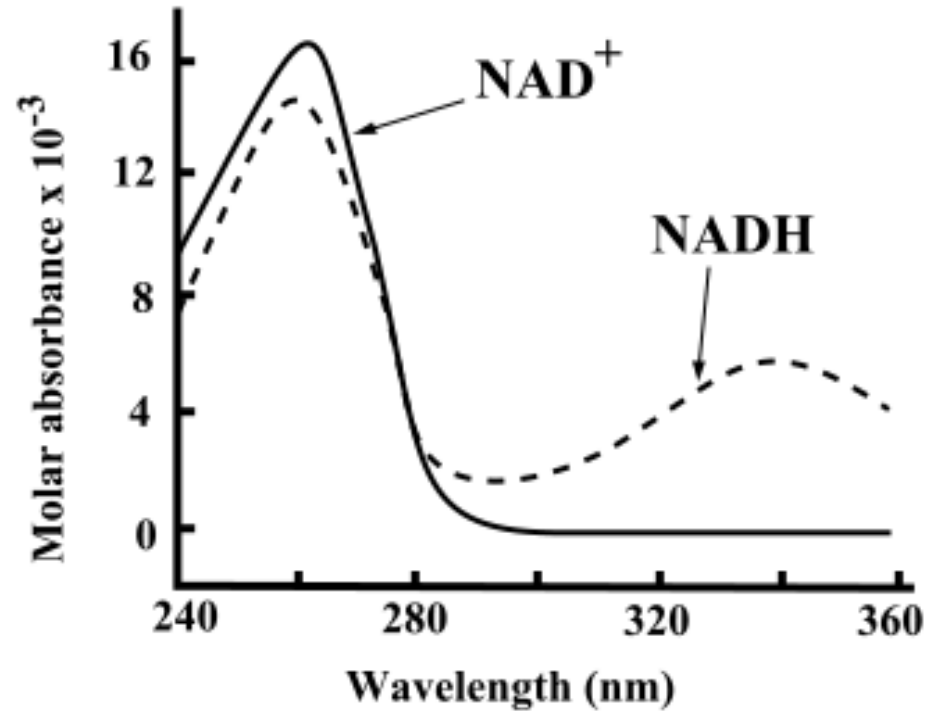


ADH = Alcohol Dehydrogenase, is the enzyme responsible for converting ethanol to acetaldehyde, the first step in ethanol metabolism

NAD = Nicotinamide adenine dinucleotide

This compound is a co-enzyme and is required for the metabolism of ethanol.

NADH = Is the reduced form of NAD (adding a hydrogen atom is called reduction)

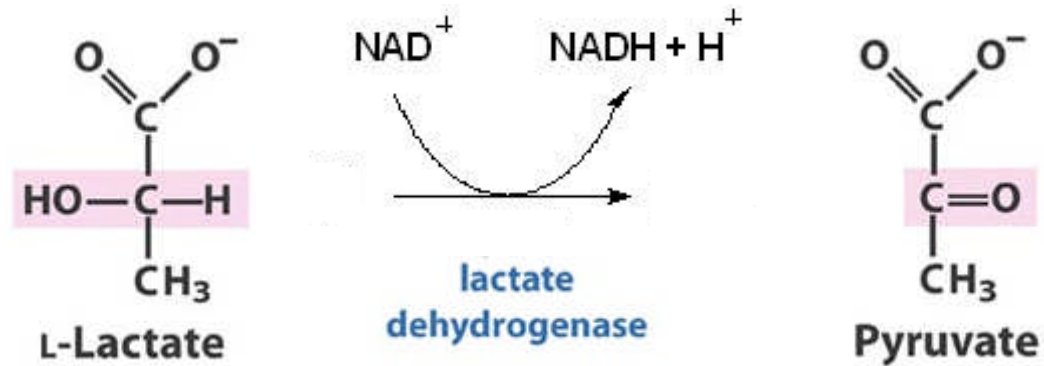


When the NAD is converted to NADH in the conversion of ethanol to acetaldehyde, the increase in the concentration of NADH is measured by the change in spectrophotometric absorption of ultraviolet light at 340 nm.

The higher the concentration of ethanol in the sample, the higher the NADH concentration will be.

Since the test is measuring NADH, a higher NADH concentration will result in a higher ethanol result.

Any other cause of increased NADH in the sample will cause a **FALSE POSITIVE RESULT**



When both lactate and lactate dehydrogenase are present in sufficient quantity in the blood, lactate may be converted to pyruvate in the presence of NAD.

NAD is converted to NADH, just like in ethanol metabolism

The increase in NADH concentration then causes a false positive serum ethanol result.

If all the lactate dehydrogenase is removed during sample pre-treatment, before the ethanol test is performed, no false positive will occur.