Pyridine Nucleotide-Nitrate Reductase from Extracts of Higher Plants—Commentary

Evans HJ, Nason A (1953) Pyridine nucleotide-nitrate reductase from extracts of higher plants. Plant Physiol **28:** 233–254

This article describes the identification of the enzyme nitrate reductase (NR) in the leaves of vascular plants. Although NR had previously been described in *Neurospora*, this is the first report of NR in plants. The discovery of NR opened up the field of study of plant nitrogen assimilation and led to the publication of hundreds of articles. NR requires reducing power from NADH, NADPH, or both depending on its location within the plant body and the species. This very complicated enzyme took many years to actually purify. After purification, we learned that it is controlled by phosphorylation/dephosphorylation. Harold Evans and others later showed NR to be one of the few molybdenum-containing enzymes in vascular plants. After working on NR, Evans turned his attention to another molybdenum-containing enzyme, dinitrogenase, in soybean (*Glycine max*) root nodule bacteroids. Harold Evans became President of the American Society of Plant Physiologists and a member of the National Academy of Science based on this discovery and many other contributions.

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