Characterization of *Carthamus tinctorius* cinnamyl alcohol dehydrogenase

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Cinnamyl alcohols are the immediate monomeric precursors of lignin, lignans and related compounds, and biosynthesized from phenylalanine through the cinnamate/monolignol pathway. The last step of the pathway which gives rise to cinnamyl alcohols are catalyzed by cinnamyl alcohol dehydrogenase (CAD). The pathway has been characterized well in relation to lignin biosynthesis and many CAD cDNAs from various plant species have so far been cloned and characterized. However, nothing is known about the physiological route among many possible parallel routes of the cinnamate/monolignol pathway, and no CAD genes which are involved in lignan biosynthesis have been identified. *Caththamus tinctorius* is a good plant material for comparative studies of lignan and lignin biosynthesis, because its maturing seeds produce significant amounts of both lignans and lignin. In this study, cDNAs encoding *Cathamus* CADs were cloned and their recombinant enzymes were characterized biochemically.