Cloning and Expression of *Brassica napus* β-Carbonic Anhydrase cDNA

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A new full-length β-carbonic anhydrase cDNA was obtained from *Brassica napus* by homologous cloning. The cDNA has an open-reading frame of 996 nucleotides, encoding 331 amino acids with a calculated molecular weight of 35,692 Da and an estimated pI value of 5.459. The deduced amino acid sequence of β-carbonic anhydrase from *Brassica napus* shared significant identity with β-carbonic anhydrases from *Brassica carinata*, *Arabidopsis thaliana*, and *Thlaspi caerulescens* (97.9%, 94%, and 93.5% identity, respectively). This cDNA was expressed in *Escherichia coli* BL21 (DE3) using the expression vector pET-32a(+). The expression band corresponded to the calculated mass plus the *N*-terminal fusion protein derived from the vector.

Key words: Brassica napus, β-Carbonic Anhydrase, Expression in *E. coli*