

3-4-3. cDNA Cloning of a Defender against Apoptotic Cell Death 1 (DAD1) from the Spider, *Araneus ventricosus*, That is Respondent to External Temperature Stimulus

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A cDNA encoding a defender against apoptotic cell death (DAD1) homologue was cloned from a cDNA library of the spider, *Araneus ventricosus*. Sequence analysis of the cDNA encoding the DAD1 homologue of *A. ventricosus* revealed that the 339 bp cDNA has an open reading frame of 113 amino acid residues. The deduced amino acid sequence of the *A. ventricosus* DAD1 homologue is 74.6% identical to the *Xenopus laevis*, and 73.1% identical to the *Homo sapiens*, *Sus scrofa*, *Mesocricetus auratus*, *Rattus norvegicus* and *Mus musculus*. Phylogenetic analysis revealed the *A. ventricosus* DAD1 homologue is more closely related to animal DAD1s than to plant DAD1 proteins. Northern blot analysis suggests that *A. ventricosus* DAD1 homologue gene is expressed in most, if not all, body tissues. In Northern blot analysis we show that *A. ventricosus* DAD1 homologue transcript levels are induced during the exposure at low (4°C) and high (37°C) temperatures, suggesting that the over-expression of DAD1 homologue gene is the response process of cells to inhibit the external stimuli.