

Family: Dof


[Dof Genomic sequences](#)
[Dof Phylogeny file](#)
[Dof Phylogeny file with bootstrap](#)
[Dof Phylogeny JPEG](#)

Minimum number of tobacco C2C2-Dof genes: 46

Count of tobacco C2C2-Dof sequences: 48

Pfam accession: [zf-Dof](#)

SHOULD possess [zf-Dof](#) domain

Dof (DNA-binding with one finger) domain proteins are plant-specific transcription factors with a highly conserved DNA-binding domain, which presumably includes a single C(2)-C(2) zinc finger. During the past decade, numerous Dof domain proteins have been identified in both monocots and dicots including maize, barley, wheat, rice, tobacco, Arabidopsis, pumpkin, potato, and pea. Biochemical, molecular biological and molecular genetic analyses revealed that Dof domain proteins function as a transcriptional activator or a repressor involved in diverse plant-specific biological processes. Although more physiological roles of Dof domain proteins would be elucidated in future because of numerous Dof domain proteins in plants, it is already evident that the Dof domain proteins play critical roles as transcriptional regulators in plant growth and development.

Papers

Yanagisawa S Dof domain proteins: Plant-specific transcription factors associated with diverse phenomena unique to plants PLANT AND CELL PHYSIOLOGY 45 (4): 386-391 2004 [PMID: 15111712](#)

Number of N terminal -3

Number of C terminal -3

Number of full - 43

Total minimum number - 46

Transcription factor sequences

Locus	Description	NCBI
Dof_1	[comment=full]	ET045676 ET048318
Dof_2	[comment=full except last 5 amino acids]	ET045909 ET049874
Dof_3	[comment=full identical to BBF1.1]	ET050254 ET041951
Dof_4	[comment=5 prime to CNNY]	ET044171 ET047385