Classification of O-methyltransferase cloned from *Oriza sativa*

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Abstract

ROMT17 is an O-methyltransferase isolated from rice. Its molecular weight is 28.3kDa. According to blast search, it is Mg2+-dependent OMT and CCoAOMT. Even though it seems to be an OMT included in class I, it uses flavonoids as its substrates. This character is included in class II. Therefore, ROMT17 is a noble OMT which has characteristics of both classes. Its characterization revealed that flavonoids with ortho dihydroxy groups substituted on aromatic ring were used as its substrates. This character shows us that ROMT17 is Mg2+-dependent OMT. However, it does not use 2', 3'-dihydroxylated flavonoids and those without double bond in C-ring. To clarify this, we determined 3D structure of ROMT17 and analyzed interaction between the enzyme and substrates based on the structural data.

Reference