

## Genetic diversity and phylogenetic analysis of the genus *Alstroemeria* based on nuclear ribosomal DNA ITS region sequence

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### ■ Abstract

*Alstroemeria* is a plant that is growing in Chile and Brazil, it can be used as ornament in many place. Many hybrids and about 190 cultivars have been developed, with different markings and colors, ranging from white, golden yellow, and orange, to apricot, pink, red, purple, and lavender. hybrids and cultivars commonly grown today result from crosses between species from Chile (winter-growing) with species from Brazil (summer-growing).

Recently, many research on *Alstroemeria* have been performed, such as morphological study. However compared to traditional identification methods, molecular methods based on DNA cloning and sequencing is a useful method on phylogenetic analysis. In the present research, the nuclear ribosomal DNA (nrDNA) called ITS1 region, ITS2 region and 5.8s rRNA of the species were searched. The study obtained a genetic separation of the species.

The results showed that there are some certain divergencies in the ITS region sequence between other cultivars. Particularly, PinkFloyd showed the highest dissimilarity of the ITS region sequence with other 11 *Alstroemeria* cultivars. this outcome makes us further understand the molecular diversification in the *Alstroemeria*,

**■ Key Words:** *Alstroemeria*, DNA sequencing, internal transcribed spacer, nuclear ribosomal DNA

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