

**Involvement of ethylene signaling in zinc oxide nanoparticle mediated biochemical changes in *Arabidopsis thaliana* leaves**

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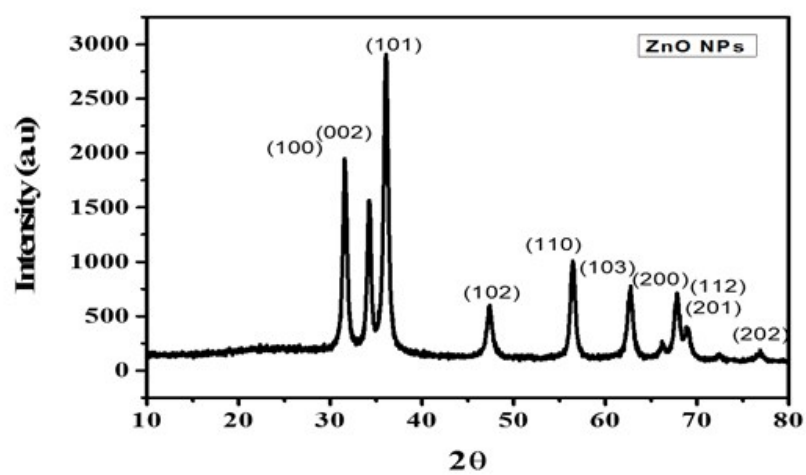
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**Supporting Information: Supplementary table: 1, Supplementary figure: 2**

**Table S1: Primers used in this study**

Name of gene	Orientation	Sequence of primers
<i>ACTIN2</i>	Forward	GGTATCGCTGACCGTATGAG
	Reverse	ATCTGCTGGAATGTGCTGAG
<i>MSD</i>	Forward	AACACCACCAGACTTATGT
	Reverse	GCCGTTGAACTTGATGAG
<i>CSD2</i>	Forward	GTATCTCAACAGGACCACAT
	Reverse	AGGCTCTTCCAACAACAG
<i>CAT2</i>	Forward	GAGAGGCAAGAACGATTC
	Reverse	AACGAGACAATGACAGTAA
<i>APX1</i>	Forward	GTATCCACATTGCTCTTAGG
	Reverse	GCCACCAGTAACTTCAAC
<i>POD3</i>	Forward	GCATTAGCCAACATTCT
	Reverse	AGACGAGCAGTGAGATAC
<i>ACS2</i>	Forward	TCATGGGAAAAGCTAGAGGTGGAAG
	Reverse	TCAACGGTTAATTTGAAATTGTCGG
<i>ACS5</i>	Forward	TCGACATCTGCGAATGAGACT
	Reverse	TCTCCATTTAAGATCTCTATCAAATCC
<i>ACS6</i>	Forward	AAACCGATGGCTGCAACAACATGAT
	Reverse	TAAGTCTGTGCACGGACTAGCGGAG
<i>ACS8</i>	Forward	TGGGGTGATTTACTCCAACGATGATT
	Reverse	GACACTCGATGCCTGCAGCCTCTAG
<i>ETR1</i>	Forward	CTCCTTCTCCGTCGCTCTC
	Reverse	CCTCTCTCACACATACACACAC
<i>EIN2</i>	Forward	CGTTCTCAACCGCCTACAG
	Reverse	CGGACTCGCTCTCTGGTG
<i>EIN3</i>	Forward	GCCAGGAGTAGTAGGAACG
	Reverse	CATAACAAGCGATAGAGACAGAG
<i>CYCA2-1</i>	Forward	GCTCCAGCTACTTGGTGTCACTTG
	Reverse	CCGCTGAAGCGGCAATTAGGGATGG
<i>CYCB1-1</i>	Forward	CGAGACGCCCCACTACTTAGACTT
	Reverse	CGGGTTTAGCTCGAATCGGACATGC
<i>CYCD1-1</i>	Forward	GCGAACGAGTTACCTTCTCTATCC
	Reverse	GCTCAATCCGTCACACCAAGTC
<i>CYCD2-1</i>	Forward	GGCGGCGGATTTACGAACGAGATTG
	Reverse	GCCCCCTTCCAAAGAGCTCTCTCT
<i>E2FB</i>	Forward	CCGATGAAAGAGGAAAGCACCG
	Reverse	CGCCTACCTCTGATCGAAACC

Fig S1. XRD characterization of ZnO NPs



**Fig S2.** Effect of ZnO NPs on biomass of *Arabidopsis*. (A) Fresh weight (B) Dry weight of ethylene mutants and wild type plants under different concentrations of ZnO NPs (0, 50, 100, 200 and 300) mg/L. Error bars illustrate  $\pm$  SE. In figure different letter shows statistically significant difference. Two way ANOVA was used at probability ( $P < 0.05$ ).

