

## **BESC - An EPSP Enzyme which Regulates Phenylpropanoid, Tyrosine and Tryptophan Pathways**

### **Disclosure Number**

201403346

### **Technology Summary**

This gene can be used to regulate phenylpropanoid, tyrosine and tryptophan biosynthesis pathways. The expression level of this gene can be manipulated in Populus and other plants carrying a similar version by genetic transformation or transient manipulation of expression levels. In addition, the specific nucleotide change that results in the specific allele described here can be used to enhance plant performance with reduced risk of deleterious secondary phenotypes. Such manipulation will result in alternation in cell wall chemistry, which results in reduced resistance to sugar release from cell wall components. This can lead to a desirable conversion rate of cellulosic ethanol from plant biomass. Further, enhanced resistance to microbial pathogens and insect pests may be induced by altering the expression of this gene. Promoters associated with this gene can also be used for targeted gene expression in specific tissue of the plant.

### **Inventor**

MUCHERO, WELLINGTON  
Biosciences Division

### **Licensing Contact**

SPECK, ROBERTA R  
Rm 141, Bldg 4500N, 6253  
1 Bethel Valley Road  
Oak Ridge, TN 37831

Office Phone: (865) 576-4680  
E-Mail: [SPECKRR@ORNL.GOV](mailto:SPECKRR@ORNL.GOV)

---