

## Recombinant Diacylglycerol Kinase (*E. coli*)

**CATALOG NUMBER:** MET-5035 (1 vial)  
MET-5035-5 (5 vials)

**STORAGE:** -80 °C; avoid freeze/thaw

**QUANTITY AND CONCENTRATION:** 100 µg/vial at 1.0 mg/mL in 1X PBS

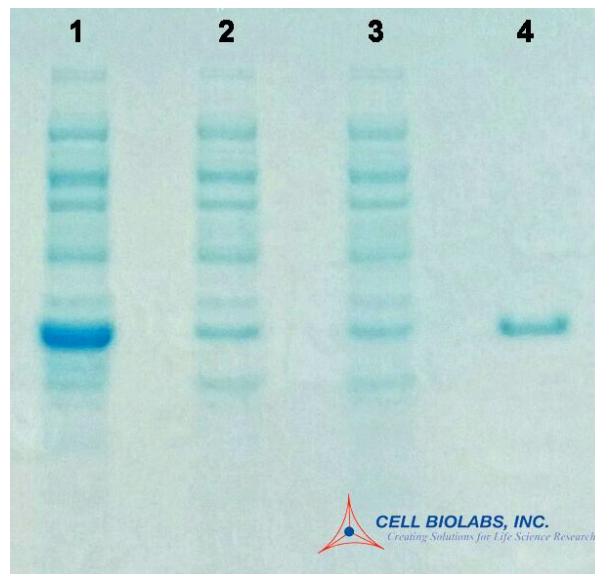
**SHELF LIFE:** 1 year from date of receipt under proper storage conditions

### **Background**

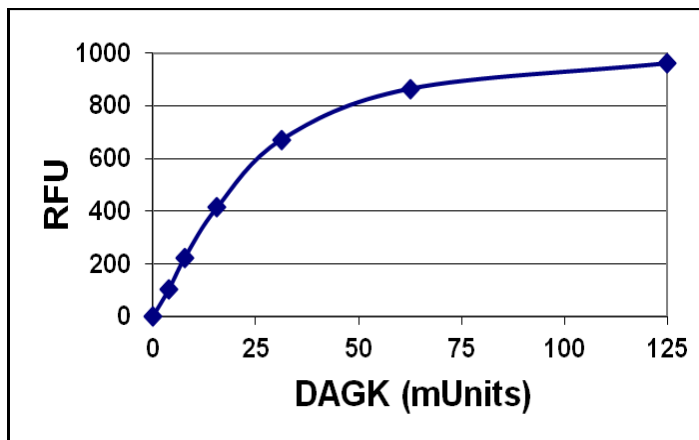
Diacylglycerol kinases (DGK or DAGK) is a group of enzymes that catalyze the conversion of diacylglycerol to phosphatidic acid, both key cellular lipid signaling molecules. In *E. coli*, DAGK is a small, integral membrane protein (13-15 kDa) which is structurally distinct from other kinases. DAG kinase has been widely used to quantify diacylglycerol in crude lipid extracts, but will also phosphorylate ceramide and monoglycerols.

### **Purity and Specific Activity**

Purified recombinant DAG Kinase expressed in *E. coli* with greater than 90% purity by SDS-PAGE (Figure 1). Cell Biolabs' rDAGK has a specific activity of 1 unit/µg as determined by Cell Biolabs' DAG Kinase Activity Assay Kit (MET-5036) (Figure 2). Unit definition: One unit will phosphorylate 1.0 nmol of 1-2-dioleoyl-*sn*-glycerol per minute at pH 7.5 at 37 °C.



**Figure 1 – Recombinant DAGK Purification.** Lane 1: Whole *E. coli* lysate; Lanes 2 & 3: Washes; Lane 4: Elution.



**Figure 2. rDAGK Activity.** The following figure demonstrates enzymatic activity of Cell Biolabs' rDAGK as tested in the DAG Kinase Activity Assay Kit (MET-5036). Fluorescence measurement was performed on SpectraMax Gemini XS Fluorometer (Molecular Devices) with a 544/590 nm filter set and 590 nm cutoff.

### References

1. Topham, M.K. and Prescott, S.M. (1999) *J. Biol. Chem.* **274**:11447-11450.
2. Van Bitterswijk, W.J. and Houssa, B. (2000) *Cell Signal.* **12**:595-605.
3. Smith, R.L. et al. (1994) *J. Bacteriol.* **176**:5459-5465.

### Warranty

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