

## O-phospho-L-serine-tRNA ligase

Cat. No. EXWM-5658

Lot. No. (See product label)

### Introduction

**Description** In organisms like *Archaeoglobus fulgidus* lacking EC 6.1.1.16 (cysteine-tRNA ligase) for the direct Cys-tRNA<sup>Cys</sup> formation, Cys-tRNA<sup>Cys</sup> is produced by an indirect pathway, in which EC 6.1.1.27 (O-phosphoseryl-tRNA ligase) ligates O-phosphoserine to tRNA<sup>Cys</sup>, and EC 2.5.1.73 (O-phospho-L-seryl-tRNA: Cys-tRNA synthase) converts the produced O-phospho-L-seryl-tRNA<sup>Cys</sup> to Cys-tRNA<sup>Cys</sup>. The SepRS/SepCysS pathway is the sole route for cysteine biosynthesis in the organism. *Methanosarcina mazei* can use both pathways, the direct route using EC 6.1.1.16 (cysteine-tRNA ligase) and the indirect pathway with EC 6.1.1.27 and EC 2.5.1.73 (O-phospho-L-seryl-tRNA: Cys-tRNA synthase).

**Synonyms** O-phosphoseryl-tRNA ligase; non-canonical O-phosphoseryl-tRNA synthetase; SepRS

### Product Information

**Form** Liquid or lyophilized powder

**EC Number** EC 6.1.1.27

**Reaction**  $\text{ATP} + \text{O-phospho-L-serine} + \text{tRNA}^{\text{Cys}} = \text{AMP} + \text{diphosphate} + \text{O-phospho-L-seryl-tRNA}^{\text{Cys}}$

**Notes** This item requires custom production and lead time is between 5-9 weeks. We can custom produce according to your specifications.

### Storage and Shipping Information

**Storage** Store it at +4 °C for short term. For long term storage, store it at -20 °C~-80 °C.