



Ribulose-1,5-bisphosphate carboxylase oxygenase

Product Code CSB-NP001701PI

Relevance Ribulose-1, 5-bisphosphate carboxylase oxygenase, most commonly known by the shorter name RuBisCO, is an enzyme involved in the Calvin cycle that catalyzes the first major step of carbon fixation, a process by which the atoms of atmospheric carbon dioxide are made available to organisms in the form of energy-rich molecules such as glucose. RuBisCO catalyzes either the carboxylation or the oxygenation of ribulose-1, 5-bisphosphate (also known as RuBP) with carbon dioxide or oxygen. RuBisCO is very important in terms of biological impact because it catalyzes the primary chemical reaction by which inorganic carbon permanently enters the biosphere. Many autotrophic bacteria and archaea fix carbon via the reductive acetyl CoA pathway, the 3-hydroxypropionate cycle or the reverse Krebs cycle, but they make up a relatively minor portion of global net primary production. Phosphoenolpyruvate carboxylase PEPC only temporarily fixes carbon. RuBisCO is also the most abundant protein in leaves, and is considered to be the most abundant protein on Earth. It accounts for 50% of soluble leaf protein in C3 plants (20-30% of total leaf nitrogen) and 30% of soluble leaf protein in C4 plants (5-9% of total leaf nitrogen). Given its important role in the biosphere, there are currently efforts to genetically engineer crop plants so as to contain more efficient RuBisCO.

Storage Aliquot and store at -20°C or -80°C. Avoid repeated freeze/thaw cycles.

Tested Applications ELISA, WB, SDS-PAGE

Form Liquid

Storage Buffer PBS, pH 7.4, 10% glycerol

Alias RuBisCO

Product Type Native Protein

Sensitivity Not test

Purity >95% (SDS-PAGE)

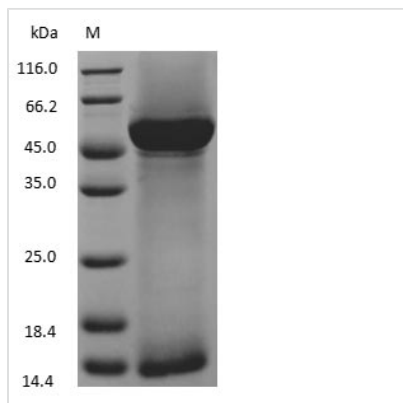
Sequence Full length protein

Research Area Cell Biology

Source Purified from Spinach leaf

Protein Names Ribulose-1,5-bisphosphate carboxylase oxygenase

Image



(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.