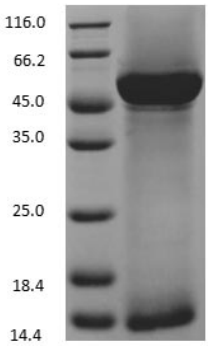
Ribulose-1,5-bisphosphate carboxylase oxygenase

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.