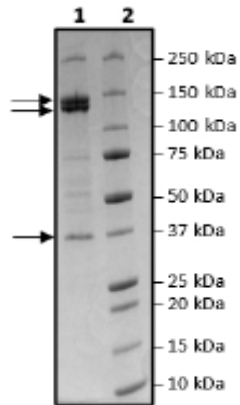


Product Information

Description:	Complex of mTOR (mammalian target of rapamycin), encompassing amino acids 1362-2549, full length MLST8 (target of rapamycin complex subunit LST8) and full length RPTOR (regulatory-associated protein of mTOR). The mTOR construct contains an N-terminal FLAG-tag, while MLST8 and RPTOR include an N-terminal Strep-tag. The proteins were expressed, and affinity purified as a complex.
Background:	mTOR (mammalian target of rapamycin) is a serine/threonine kinase protein of the PI3K (phosphatidylinositol 3-kinase)-related family. It can form two different complexes, which differ in the accessory protein present and have different biological functions. mTORC1 (mTOR complex 1) includes the protein RPTOR (regulatory-associated protein of mTOR), while mTORC2 is composed of RICTOR (RPTOR independent companion of mTOR complex 2). MLST8 (target of rapamycin complex subunit LST8) is common to both complexes and seems to stabilize the active site of mTOR and participate in its activation. mTORC1 is activated in response to growth factors and responds to activation of the PI3K-AKT (protein kinase B) pathway. It is involved in cell growth via phosphorylation of proteins like 4E-BP1 (eIF-4E-binding protein). Dysfunction of mTORC1 can result in cancer, and strategies targeting mTORC1 may result in major advances in cancer therapy.
Species:	Human
Construct:	mTOR (FLAG-1362-2549(end)) / MLST8 (Strep-2-326(end)) / RPTOR (Strep-2-1335(end))
Concentration:	0.28 mg/ml
Expression System:	Sf9
Purity:	84%
Format:	Aqueous buffer solution.
Formulated In:	80 mM Tris-HCl, pH 8.0, 120 mM NaCl, 0.8 mM EDTA, 2 mM desthiobiotin, and 20% Glycerol
MW:	mTOR: 137 kDa; MLST8: 37 kDa; RPTOR: 150 kDa
Genbank Accession:	mTOR: NM_004958; MLST8: NM_022372; RPTOR: NM_020761
Stability:	At least 6 months at -80°C.
Storage:	-80°C
Instructions for Use:	Thaw on ice and gently mix prior to use. DO NOT VORTEX. Perform a quick spin before opening. Aliquot into small volumes and flash freeze for long term storage. Avoid multiple freeze/thaw cycles.
Assay Conditions:	Activity was measured using the ADP-Glo™ Kinase Assay (Promega #V6930). The kinase reaction included 100 μM ATP, 0.1 mg/ml 4EBP1, and 5 mM MnCl ₂ in kinase buffer (40 mM Tris HCl, pH 7.4, 20 mM MgCl ₂ , 0.1 mg/ml BSA, and 2 mM DTT) (25 μl total volume per reaction). Reaction was incubated for 45 minutes at 30°C.
Applications:	Useful for the study of enzyme kinetics, screening inhibitors, and selectivity profiling.

Quality Control Data

4-20% SDS-PAGE Coomassie Staining



mTOR Activity

