



Recombinant Protein Technical Manual

Recombinant Human FKBP12 Protein (His Tag)

RPES4938

Product Data:

Product SKU: RPES4938

Size: 100µg

Species: Human

Expression host: E. coli

Uniprot: NP_463460

Protein Information:

Molecular Mass: 12.9 kDa

AP Molecular Mass: 12.9 kDa

Tag: C-His

Bio-activity:

Purity: > 96 % as determined by reducing SDS-PAGE.

Endotoxin: Please contact us for more information.

Storage: Lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.

Shipping: This product is provided as lyophilized powder which is shipped with ice packs.

Formulation: Lyophilized from sterile PBS, 10% glycerol, pH 7.4

Reconstitution: Please refer to the printed manual for detailed information.

Application:

Synonyms: FKBP2;FKBPA;FKBP1;FKBP12;PKC12;PKCI2;PPIASE

Immunogen Information:

Sequence: Met 1-Glu 108

Background:

FK506 binding protein 12 (FKBP12), also known as FKBP1, along with cyclophilin, are two major members of the immunophilin protein family who serve as receptors for the immunosuppressant drugs cyclosporin A and FK506. As a conserved molecule in many eukaryotes, FKBP12 has been characterized as a peptidyl-prolyl isomerase that catalyzes the transition between cis- and trans-proline residues, and is involved in several biochemical processes including protein folding, receptor signaling, protein trafficking and transcription. FKBP12 has attracted immense attention and its role in mediating the immunosuppressive functions. FKBP12 serves a dual role as a peptidyl-prolyl cis-trans isomerase and as a modulator of several cell signaling pathways. In one such a role, FKBP12 interacts with and regulates the functional state of the ryanodine Ca²⁺ channel receptor by altering protein conformation and coordinating multi-protein complex formation. Another physiological role of FKBP12 is an interactor and a regulator of the type I serine/threonine kinase receptors of TGF-beta superfamily. Current data, derived from detailed biochemical studies as well as from functional studies in various systems, suggest that FKBP12 functions as a "guardian" for the type I receptors to prevent them from leaky signaling under sub-optimal ligand concentrations, thereby providing a molecular "gradient reader" for TGF-beta family morphogens. This aspect of FKBP12 function may be critical for cellular responsiveness to morphogenetic gradients of the TGF-beta family members during early development, serving to assure the translation of different ligand concentrations into different signaling readouts. In addition, FKBP12 may be involved in neuronal or astrocytic cytoskeletal organization and in the abnormal metabolism of tau protein in Alzheimer's disease (AD) damaged neurons.