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MATERIAL DATA SHEET

PA28 Activator α subunit, *rat recombinant* Cat. # E-380

The Proteasome Activator 28 (PA28) Regulatory Complex, also known as the 11S Regulatory (REG) Complex, is a ring-shaped, multimeric, ATP-dependent regulatory complex that can bind to one or both ends of the 20S Proteasome or 20S Immunoproteasome. The PA28 Regulatory Complex stimulates the proteasome to hydrolyze small peptides, but not ubiquitinated proteins, for the production of peptides for MHC class I antigen presentation. Three PA28 Regulatory Complex subunits, alpha, beta, and gamma, have been identified and can oligomerize to form the PA28 Regulatory Complex. While the expression of the PA28 alpha and beta subunits are induced by IFN-gamma, the PA28 gamma subunit is not significantly affected. The human PA28 Activator alpha Subunit, also known as 11S REG alpha, is a 249 amino acid (aa) member of the PA28 family of regulatory proteins with a predicted molecular weight of 29 kDa. Rat and human orthologs share 95% aa sequence identity. *In vivo*, PA28 alpha forms hetero-oligomers with PA28 beta. PA28 alpha can also form active homo-oligomers *in vitro* and can be used to activate the 20S Proteasome. In addition to regulating production of MHC class I antigens, PA28 alpha may protect against oxidative stress.

Product Information

Quantity:	100 μ g
Stock:	X mg/ml (X μ M, monomer) in 50 mM HEPES pH 8.0, 200 mM NaCl, 1mM DTT
MW:	29 kDa
Purity:	> 95% by SDS-PAGE under reducing conditions and visualized by Colloidal Coomassie Blue stain

Use & Storage

Use:	Recombinant Rat PA28 Activator α Subunit is ideal for the activation of latent 20S Proteasome complexes. Reaction conditions will need to be optimized for each specific application. Initially, we recommend a 5-15-fold molar excess of PA28 α relative to 20S Proteasome.
Storage:	Store at -80°C. Avoid multiple freeze/thaw cycles.

840 Memorial Drive, Cambridge, MA 02139 Phone: 617-576-2210 FAX: 617-492-3565

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Literature

- References:** Cascio P., *et al.* (2002) EMBO. J. **21**:2636-2645
Knowlton J.R., *et al.* (1997) Nature. **390**:639-643
Ma C.P., *et al.* (1992) J. Biol. Chem. **267**:10515-10523
Mott J.D., *et al.* (1994) J. Biol. Chem. **269**:31466-31471
Realini C., *et al.* (1994) J. Biol. Chem. **269**:20727-20732
Reichsteiner M., *et al.* (2000) Biochem. J. **345**:1-15
Song X., *et al.* (1996) J. Biol. Chem. **271**:26410-26417
Whitby F.G., *et al.* (2000) Nature. **408**:115-120

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