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32-3083: PKACa2/RIa2 Recombinant Protein

Alternative Name : Protein Kinase A holoenzyme type I alpha,PKACa2- RIa2.

Description

Source : Escherichia Coli. Inactive holoenzyme consisting of one dimeric regulatory subunit type I alpha and two monomeric catalytic subunits (cAMP-free). Protein Kinase A Recombinant is purified by proprietary chromatographic techniques. The protein kinase A holoenzyme is a heterotetramer composed of two types of subunits: Catalytic and Regulatory. The Catalyticsubunit contains the enzyme's active site. It also contains a domain that binds ATP and a domain that binds the regulatory subunit. The Regulatory subunit consists oftwo molecules which bind one another in an anti-parallel orientation to form a homodimer; for type I subunits- this binding is covalent via disulfide bonds. This subunit also has has two domains that bind cyclic AMP, a domain that interacts with a catalytic subunit, and an 'auto-inhibitory' domain that serves as a substrate or pseudosubstrate for the catalytic subunit. Regulatory subunits may also have biologic activity distinct from their role in modulating catalytic subunit activity. Regulatory subunits exist in two major forms, RI and RII, with each form having two subtypes designated alpha and beta. Each of the four isotypes of the regulatory subunit is encoded by a different gene. In addition, three isotypes of the catalytic subunit have been identified (alpha, beta and gamma). The different isotypes tend to have different distributions within cells and among tissues. Type I enzymes inhabit cytoplasmic, soluble fractions of the cell, whereas type II enzymes tend to associate with cellular membranes.

Product Info

Amount :	3 µg
Purification :	Greater than 95.0% as determined by SDS-PAGE.
Content :	PKA holoenzyme type-I alpha is supplied in 50% glycerol.
Storage condition :	PKA should be stored at 4°C if entire vial will be used within 2-4 weeks. For long term storage it is recommended to store at -20°C. Avoid multiple freeze-thaw cycles.

Application Note

Holoenzyme can be activated by adding the second messenger cAMP (Activation constant about 100nM) releasing two monomeric catalytic subunits.

For Research Use Only. Not for use in diagnostic/therapeutics procedures.