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| <b>Product name:</b>  | CAD (phospho Thr456) Rabbit Polyclonal Antibody                                                                                           |
| <b>Cat number:</b>    | ABN04348                                                                                                                                  |
| <b>Conjugate:</b>     | Unconjugated                                                                                                                              |
| <b>Size:</b>          | 100µL                                                                                                                                     |
| <b>Clone:</b>         | Polyclonal                                                                                                                                |
| <b>Concentration:</b> | 1mg/ml                                                                                                                                    |
| <b>Host:</b>          | Rabbit                                                                                                                                    |
| <b>Isotype:</b>       | IgG                                                                                                                                       |
| <b>Immunogen:</b>     | The antiserum was produced against synthesized peptide derived from human CAD around the phosphorylation site of Thr456. AA range:422-471 |
| <b>Reactivity:</b>    | Human,Mouse                                                                                                                               |
| <b>Applications:</b>  | IHC 1:100-1:300,ICC/IF 1:50-1:200,ELISA 1:5000-1:10000                                                                                    |
| <b>Purification:</b>  | Affinity purification                                                                                                                     |
| <b>Form:</b>          | Liquid                                                                                                                                    |
| <b>Buffer:</b>        | Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% New type preservative N.                                                        |
| <b>Storage:</b>       | Store at 4°C short term. Aliquot and store at -20°C for 12 months. Avoid freeze/thaw cycles.                                              |

**Background:**

The de novo synthesis of pyrimidine nucleotides is required for mammalian cells to proliferate. This gene encodes a trifunctional protein which is associated with the enzymatic activities of the first 3 enzymes in the 6-step pathway of pyrimidine biosynthesis: carbamoylphosphate synthetase (CPS II), aspartate transcarbamoylase, and dihydroorotase. This protein is regulated by the mitogen-activated protein kinase (MAPK) cascade, which indicates a direct link between activation of the MAPK cascade and de novo biosynthesis of pyrimidine nucleotides. Alternative splicing results in multiple transcript variants encoding different isoforms. [provided by RefSeq, Apr 2015], catalytic activity: (S)-dihydroorotate + H<sub>2</sub>O = N-carbamoyl-L-aspartate., catalytic activity: 2 ATP + L-glutamine + HCO<sub>3</sub><sup>(-)</sup> + H<sub>2</sub>O = 2 ADP + phosphate + L-glutamate + carbamoyl phosphate., catalytic activity: Carbamoyl phosphate + L-aspartate = phosphate + N-carbamoyl-L-aspartate., cofactor: Binds 1 zinc ion per subunit (for dihydroorotase activity) ., enzyme regulation: Allosterically regulated and controlled by phosphorylation. 5-phosphoribose 1-diphosphate is an activator while UMP is an inhibitor of the CPSase reaction., function: This protein is a "fusion" protein encoding four enzymatic activities of the pyrimidine pathway (GATase, CPSase, ATCase and DHOase)., miscellaneous: GATase (glutamine amidotransferase) and CPSase (carbamoyl phosphate synthase) form together the glutamine-dependent CPSase (GD-CPSase) (EC 6.3.5.5)., online information: Aspartate carbamoyltransferase entry, pathway: Pyrimidine metabolism; UMP biosynthesis via de novo pathway; UMP from HCO<sub>3</sub><sup>(-)</sup>: step 1/6., pathway: Pyrimidine metabolism; UMP biosynthesis via de novo pathway; UMP from HCO<sub>3</sub><sup>(-)</sup>: step 2/6., pathway: Pyrimidine metabolism; UMP biosynthesis via de novo pathway; UMP from HCO<sub>3</sub><sup>(-)</sup>: step 3/6., similarity: Belongs to the ATCase/OTCase family., similarity: Contains 1 glutamine amidotransferase type-1 domain., similarity: Contains 2 ATP-grasp domains., similarity: In the central section; belongs to the DHOase family., subunit: Homohexamer.,