# Recombinant CCAR2 protein (His tag)

| | |
|---|---|
| **Catalog Number** | 545410 |
| **Synonyms** | Cell division cycle and apoptosis regulator protein 2; DBIRD complex subunit KIAA1967; Deleted in breast cancer gene 1 protein; DBC-1; DBC.1; NET35; p30 DBC |
| **Species** | Human |
| **Expression System** | E. coli |
| **Accession** | Q8N163 |
| **Molecular Weight** | Predictes a molecular mass of 27.38 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 28 kDa band. |

## Product Information

| | |
|---|---|
| **Sequence Region** | 223-450 |
| **Form** | Lyophilized powder |
| **Formulation** | Lyophilized from sterile PBS, pH 7.4 |
| **Purity** | >90%, by SDS-PAGE with Coomassie Brilliant Blue staining. |
| **Endotoxin** | Not tested. |
| **Activity** | Not tested. |
| **Stability** | Samples are stable for up to twelve months from date of receipt at -70℃ |
| **Protein Construction** | DNA encoding 223-450 aa (Q8N163) were fused with 6His tag. |

## Storage & Handling

| | |
|---|---|
| **Reconstitution** | Reconstitute at 0.25 μg/μl in sterile water for short-term storage. Reconstitution with 50% glycerol solution is recommended for longer term storage (see Stability and Storage for more details). If a different concentration is needed for your purposes please adjust the reconstitution volume as required (please note: the ion concentration of the final solution will vary according to the volume used). Note: Centrifuge vial before opening. When reconstituting, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution. |
| **Storage** | Store it under sterile conditions at -20℃ to -80℃. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles. |
| **Shipping** | In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature.<br>Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise. |

## Description

| | |
|---|---|
| **Description** | Recombinant Human CCAR2 Protein Fragment (aa 223-450) is a high-quality, soluble protein fragment derived from the Cell Cycle and Apoptosis Regulator Protein 2 (CCAR2/DBC-1). This fragment has been computationally optimized for stability and solubility, making it an ideal reagent for structural studies, biochemical assays, and functional investigations into CCAR2's roles in transcriptional regulation, apoptosis, and genomic stability.<br>The full-length CCAR2 protein, encoded by the CCAR2 gene in Homo sapiens, is a multifunctional nuclear protein and a core component of the DBIRD complex. It plays critical roles at the interface between transcript elongation and alternative splicing, particularly in (A+T)-rich genomic regions. CCAR2 is a key regulator of multiple signaling pathways, notably through its inhibition of deacetylases such as SIRT1 and HDAC3, which modulates p53/TP53 acetylation and apoptosis. It also regulates circadian clock components NR1D1 and BMAL1, gluconeogenesis via PCK1 expression, and the canonical Wnt signaling pathway. Additionally, CCAR2 contributes to tumor suppression by stabilizing p53/TP53 and repressing BRCA1 transcriptional activity. The protein localizes primarily to the nucleus but can translocate to the cytoplasm, including the spindle apparatus, and is recruited to chromatin following UV-induced genotoxic stress, highlighting its importance in maintaining genomic integrity and cellular response to DNA damage. |