# Recombinant Homo sapiens Transcription activator BRG1

Catalog No: #AP72788

Package Size: #AP72788-1 20ug #AP72788-2 100ug #AP72788-3 1mg

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## Description

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| Product Name | Recombinant Homo sapiens Transcription activator BRG1 |
| Brief Description | Recombinant Protein |
| Host Species | Yeast |
| Purification | Greater than 90% as determined by SDS-PAGE. |
| Immunogen Description | Expression Region:700-1246aaSequence Info:Partial |
| Other Names | ATP-dependent helicase SMARCA4<br>BRG1-associated factor 190A<br>Short name:<br>BAF190A<br>Mitotic growth and transcription activator<br>Protein BRG-1<br>Protein brahma homolog 1<br>SNF2-beta<br>SWI,SNF-related matrix-associated actin-dependent regulator of chromatin subfamily A member 4 |
| Accession No. | P51532 |
| Uniprot | P51532 |
| GeneID | 6597; |
| Calculated MW | 64.8 kDa |
| Tag Info | N-terminal 6xHis-tagged |
| Target Sequence | EVDARHIIENAKQDVDDEYGVSQALARGLQSYYAVAHAVTERVDKQSALMVNGVLKQYQIKGLEWLVSLYNN<br>NLNGILADEMGLGKTIQTIALITYLMEHKRINGPFLIIVPLSTLSNWAYEFDKWAPSVVKVSYKGSPAARRAFVP<br>QLRSGKFNVLLTTYEYIIKDKHILAKIRWKYMIVDEGHRMKNHHCKLTQVLNTHYVAPRRLLLTGTPLQNKLPEL<br>WALLNFLLPTIFKSCSTFEQWFNAPFAMTGEKVDLNEEETILIIRRLHKVLRPFLLRRLKKEVEAQLPEKVEYVIK<br>CDMSALQRVLYRHMQAKGVLLTDGSEKDKKGKGGTKTLMNTIMQLRKICNHPYMFQHIEESFSEHLGFTGGIV<br>QGLDLYRASGKFELLDRILPKLRATNHKVLLFCQMTSLMTIMEDYFAYRGFKYLRLDGTTKAEDRGMLLKTFNE<br>PGSEYFIFLLSTRAGGLGLNLQSADTVIIFDSDWNPHQDLQAQDRAHRIGQQNEVRVLRLCTVNSVEEKILAAA<br>KYKLNVDQKVIQAGMFDQKSSSHERRAF |
| Formulation | Tris-based buffer50% glycerol |
| Storage | The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself.<br>Generally, the shelf life of liquid form is 6 months at -20°C,-80°C. The shelf life of lyophilized form is 12 months at -20°C,-80°C.Notes:Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week. |

## Background

Transcriptional coactivator cooperating with nuclear hormone receptors to potentiate transcriptional activation. Component of the CREST-BRG1 complex, a multiprotein complex that regulates promoter activation by orchestrating a calcium-dependent release of a repressor complex and a recruitment of an activator complex. In resting neurons, transcription of the c-FOS promoter is inhibited by BRG1-dependent recruitment of a phospho-RB1-HDAC repressor complex. Upon calcium influx, RB1 is dephosphorylated by calcineurin, which leads to release of the repressor complex. At the same time, there is increased recruitment of CREBBP to the promoter by a CREST-dependent mechanism, which leads to transcriptional activation. The CREST-BRG1 complex also binds to the NR2B promoter, and activity-dependent induction of NR2B expression involves a release of HDAC1 and recruitment of CREBBP. Belongs to the neural progenitors-specific chromatin remodeling complex (npBAF complex) and the neuron-specific chromatin remodeling complex (nBAF complex). During neural development a switch from a stem,progenitor to a post-mitotic chromatin remodeling mechanism occurs as neurons exit the cell cycle and become committed to their adult state. The transition from proliferating neural stem,progenitor cells to post-mitotic neurons requires a switch in subunit composition of the npBAF and nBAF complexes. As neural progenitors exit mitosis and differentiate into neurons, npBAF complexes which contain ACTL6A,BAF53A and PHF10,BAF45A, are exchanged for homologous alternative ACTL6B,BAF53B and DPF1,BAF45B or DPF3,BAF45C subunits in neuron-specific complexes (nBAF). The npBAF complex is essential for the self-renewal,proliferative capacity of the multipotent neural stem cells. The nBAF complex along with CREST plays a role regulating the activity of genes essential for dendrite growth. SMARCA4,BAF190A may promote neural stem cell self-renewal,proliferation by enhancing Notch-dependent proliferative signals, while concurrently making the neural stem cell insensitive to SHH-dependent differentiating cues (By similarity). Acts as a corepressor of ZEB1 to regulate E-cadherin transcription and is required for induction of epithelial-mesenchymal transition (EMT) by ZEB1.

## References

"Frequent BRG1,SMARCA4-inactivating mutations in human lung cancer cell lines."Medina P.P., Romero O.A., Kohno T., Montuenga L.M., Pio R., Yokota J., Sanchez-Cespedes M.Hum. Mutat. 29:617-622(2008) Research Topic:Cancer

Note: This product is for in vitro research use only