

SYNGAP1 Protein, Human (His)

Cat. No.:	HY-P71619
Synonyms:	DKFZp761G1421 ; KIAA1938; MRD5; Neuronal RasGAP; OTTHUMP0000064825; p135 SynGAP; Ras GTPase activating protein SynGAP; Synaptic Ras-GAP 1; SYNGAP 1; SYNGAP1
Species:	Human
Source:	E. coli
Accession:	Q96PV0 (1161M-1343H)
Gene ID:	8831
Molecular Weight:	Approximately 25.5 kDa

PROPERTIES

AA Sequence	<p>M P H L S A D I E S A H I E R E E Y K L K E Y S K S M D E S R L D R V K E Y E E</p> <p>E I H S L K E R L H M S N R K L E E Y E R R L L S Q E E Q T S K I L M Q Y Q A R</p> <p>L E Q S E K R L R Q Q Q A E K D S Q I K S I I G R L M L V E E E L R R D H P A M</p> <p>A E P L P E P K K R L L D A Q E R Q L P P L G P T N P R V T L A P P W N G L A P</p> <p>P A P P P P R L Q I T E N G E F R N T A D H</p>
Appearance	Lyophilized powder.
Formulation	Lyophilized after extensive dialysis against solution in Tris-based buffer, 50% glycerol.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH ₂ O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	<p>SYNGAP1 Protein takes center stage as a major constituent of the postsynaptic density (PSD), playing a crucial role in postsynaptic signaling. Functioning as an inhibitory regulator of the Ras-cAMP pathway, SYNGAP1 is integral to synaptic function and plasticity. Within the excitatory synapses, it serves as a member of the NMDAR signaling complex, potentially influencing NMDAR-dependent control of AMPAR potentiation, AMPAR membrane trafficking, and overall synaptic plasticity. Furthermore, SYNGAP1 regulates AMPAR-mediated miniature excitatory postsynaptic currents and exhibits dual GTPase-activating specificity for both Ras and Rap. Interactions with KLHL17, CAMK2A, CAMK2B, and MPDZ highlight its intricate network within synaptic signaling pathways. Notably, it may be implicated in certain forms of brain injury, leading to long-term deficits in learning and memory, underscoring its critical role in neural function.</p>
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Caution: Product has not been fully validated for medical applications. For research use only.

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