Recombinant Human HRP-2 Isoform 1

Catalog Number: 4956-HD

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived Pro2-Ser671, with a C-terminal 6-His tag Accession # NP_001001520
N-terminal Sequence Analysis	Pro2
Predicted Molecular Mass	75 kDa

SPECIFICATIONS

SDS-PAGE	110-120 kDa, reducing conditions
Activity	Measured by its ability to enhance neurite outgrowth of E16-E18 rat embryonic cortical neurons. Able to significantly enhance neurite outgrowth when immobilized at 6-25 µg/mL on a nitrocellulose-coated microplate.
Endotoxin Level	<0.01 EU per 1 µg of the protein by the LAL method.
Purity	>90%, by SDS-PAGE under reducing conditions and visualized by silver stain.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 250 µg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 3 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Hepatoma-derived growth factor (HDGF)-related protein 2 (HRP-2) is a 74 kDa (predicted) member of the HDGF protein family (1 - 5). Similar to the electrophoretic mobility of HRP-3, HRP-2 runs as an anomalously large molecule in SDS-PAGE (4, 5). Members of this gene family have a highly conserved 98 amino acid (aa) sequence at the amino terminus (*hath* region, for homologous to amino terminus of HDGF) (1). Human HRP-2 is 671 aa in length and has no conserved sequence other than the hath region (1). There is no putative signal peptide sequence for secretion. Located within the hath region is a PWWP domain (aa 5 - 76), named after a conserved Pro-Trp-Trp-Pro motif. The protein also contains a serine-rich region (aa 142 - 269), an arginine-rich region (aa 318 - 391), an HIV-1 Integrase binding domain (IBD) (aa 470-552), a coiled-coil region (aa 521 - 581), and 19 phosphoserine sites that are apparently utilized. There are two isoforms for HRP-2, named 1 and 2. Isoform 2 is missing Ser640 which is found in isoform 1. Human HRP-2 shares 81% and 80% aa sequence identity with mouse and rat HRP-2, respectively. HRP-2 mRNA is highly expressed in testis and skeletal muscle, and is known to exist in neurons, astrocytes and oligodendroglia (1, 5). Like other proteins with a PWWP domain, HRP-2 is imported into the nucleus where it may function as a regulatory protein (1 - 2). The phosphoprotein may also play a role in viral replication, as it has been shown to bind to HIV-Integrase and efficiently reconstitute the *in vitro* activity of HIV-1 preintegration complexes (2 - 3).

References:

1. Izumoto, Y. *et al.* (1997) Biochem. Biophys. Res. Commun. **283**:26.
2. Cherepanov, P. *et al.* (2004) J. Biol. Chem. **279**:48883
3. Vandegraaff, N. *et al.* (2006) Virology **346**:415.
4. Dietz, F. *et al. (*2002) Biochem. J. **366**:491.
5. El-Tahir, H.M. *et al.* (2006) BMC Neurosci. Jan 23; **7**:6.

bio-techne®
Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449