

Product: Angiotensin-1, human, recombinant
Catalog #: 11-ANGPO-1H
Amount: 5 µg

DESCRIPTION:

Human Angiotensin-1 (Ang-1), a 66 kDa protein consisting of 476 amino acid residues (N21-F496), is fused to a N-terminal myc-tag and produced in insect cells. The angiotensin (Ang) family of growth factors includes four members, all of which bind to the endothelial receptor tyrosine kinase Tie2. Two of the Angs, Ang-1 and Ang-4, activate the Tie2 receptor, whereas Ang-2 and Ang-3 inhibit Ang-1-induced Tie2 phosphorylation. Angiotensin-1 (Ang-1) is a secreted growth factor which binds to and activates the Tie-2 receptor tyrosine kinase. The factor enhances endothelial cell survival and capillary morphogenesis, and also limits capillary permeability. Ang-2 binds the same receptor but fails to activate it: hence, it is a natural inhibitor of Ang-1. Ang-2 destabilises capillary integrity, facilitating sprouting when ambient vascular endothelial growth factor (VEGF) levels are high, but causing vessel regression when VEGF levels are low. Tie-1 is a Tie-2 homologue but its ligands are unknown. Angiotensin and Tie genes are expressed in the mammalian metanephros, the precursor of the adult kidney, where they may play a role in endothelial precursor growth. Tie-1-expressing cells can be detected in the metanephros when it first forms and, based on transplantation experiments, these precursors contribute to the generation of glomerular capillaries. During glomerular maturation, podocyte-derived Ang-1 and mesangial-cell-derived Ang-2 may affect growth of nascent capillaries. After birth, vasa rectae acquire their mature configuration and Ang-2 expressed by descending limbs of loops of Henle would be well placed to affect the growth of this medullary microcirculation. Finally, preliminary data implicate angiotensins in deregulated vessel growth in Wilms' kidney tumours and in vascular remodelling after nephrotoxicity. Altogether, existing data suggest that VEGF-A and Angiotensins not only have quite different but also very complementary and coordinated roles.

SOURCE:*Insect cells***PURITY:**

Greater than 95.0% as determined by:

(a) Analysis by RP-HPLC.

(b) Anion-exchange FPLC

DIMERS & AGGREGATES:

<1% as determined by silver stained SDS-PAGE gel analysis

ENDOTOXIN:

Less than 0.1 ng/µg (IEU/µg) of rhANG-1

PROTEIN CONTENT:

Protein quantitation was carried out by two independent methods:

1) UV spectroscopy at 280 nm.

2) Analysis by RP-HPLC, using a standard solution of ANG1 as a Reference Standard.

FORM:

Purified

STORAGE:

-20°C, avoid freezing and thawing cycles after reconstitution

BIOLOGICAL ACTIVITY:

rhANG-1 is fully biologically active when compared to standard.

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