

# Recombinant Human ANGPTL2 Protein (Asp245-His493), His-tagged

Cat. No. ANGPTL2-472H Lot. No. (See product label)

## SPECIFICATION

**Product Overview** Recombinant Human ANGPTL2 Protein (NP\_036230.1) (Asp245-His493) was produced by HEK293 Cells expression system. This protein was expressed with a polyhistidine tag at the N-terminus.

**Species** Human

**Source** HEK293

**ProteinLength** Asp245-His493

**Description** The angiopoietin-like protein (ANGPTL) family is homologous to angiopoietins but does not bind to the Tie2 receptor. The function of ANGPTLs has been elucidated largely in the context of angiogenesis and lipid metabolism. Morinaga et al. demonstrated that genetic depletion of Angptl2 confers amelioration of the mouse kidney fibrosis induced by a unilateral ureteral obstruction, implicating that ANGPTL2, predominantly in the renal tubular compartments, activates the transforming growth factor- $\beta$  signaling and vice versa through miR-221. Angiopoietin-like protein 2 (ANGPTL2) maintains tissue homeostasis by inducing inflammation and angiogenesis. It is produced in infiltrating immune cells or resident cells, such as adipocytes, vascular endothelial cells, and tumor cells. The classic sequential cascade of *P. gingivalis* LPS  $\rightarrow$  inflammatory cytokine induction is well established. However, in the current study, we reveal a novel cascade comprising sequential *P. gingivalis* LPS  $\rightarrow$  ANGPTL2  $\rightarrow$  integrin  $\alpha 5\beta 1$   $\rightarrow$  inflammatory cytokine induction, which

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might be responsible for inducing potent periodontal disorganization activity in gingival epithelial cells. Via this pathway, ANGPTL2 functions in the pathogenesis of periodontitis and contributes to prolonging chronic inflammation in patients with systemic disease. That MAC-3-positive immune cells, including infiltrating bone marrow-derived macrophages and activated microglia, express abundant angiopoietin-like protein (ANGPTL) 2 in ischemic mouse brain in a transient middle cerebral artery occlusion (MCAO) model. Both neurological deficits and infarct volume decreased in transient MCAO model mice established in Angptl2 knockout (KO) relative to wild-type mice. Acute brain inflammation after ischemia-reperfusion, as estimated by expression levels of pro-inflammatory cytokines such as interleukin (IL)-1 $\beta$  and tumor necrosis factor alpha (TNF)- $\alpha$ , was significantly suppressed in Angptl2 KO compared to control mice.

<b>Predicted N Terminal</b>	His
<b>Form</b>	Lyophilized from sterile PBS, pH 7.4. Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization.
<b>Molecular Mass</b>	The recombinant human ANGPTL2 consists of 268 amino acids and predicts a molecular mass of 31.4 kDa.
<b>Endotoxin</b>	< 1.0 EU per $\mu$ g protein as determined by the LAL method.
<b>Purity</b>	> 95 % as determined by SDS-PAGE.
<b>Stability</b>	Samples are stable for up to twelve months from date of receipt at -70 centigrade.
<b>Storage</b>	Store it under sterile conditions at -20 centigrade to -80 centigrade. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.

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**Reconstitution** It is recommended that sterile water be added to the vial to prepare a stock solution of 0.2 mg/ml. Centrifuge the vial at 4°C before opening to recover the entire contents.

**Shipping** In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature.  
Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise.

## GENE INFORMATION

<b>Gene Name</b>	ANGPTL2 angiotensin-like 2 [ Homo sapiens ]
<b>Official Symbol</b>	ANGPTL2
<b>Synonyms</b>	ANGPTL2; angiotensin-like 2; ARP2; HARP; MGC8889;
<b>Gene ID</b>	23452
<b>mRNA Refseq</b>	NM_012098
<b>Protein Refseq</b>	NP_036230
<b>MIM</b>	605001
<b>UniProt ID</b>	Q9UKU9

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