APA980Mu61 100μg
Active Endoglin (ENG)
Organism Species: *Mus musculus (Mouse)*
Instruction manual

FOR RESEARCH USE ONLY
NOT FOR USE IN CLINICAL DIAGNOSTIC PROCEDURES

13th Edition (Revised in Aug, 2023)

[PROPERTIES]

Source: Eukaryotic expression.
Host: 293F cell
Residues: Glu27~Gly581
Tags: N-terminal His-tag
Purity: >90%
Endotoxin Level: <1.0EU per 1μg (determined by the LAL method).
Buffer Formulation: PBS, pH7.4, containing 5% Trehalose .
Original Concentration: 200μg/mL
Applications: Activity Assays.
(May be suitable for use in other assays to be determined by the end user.)
Predicted isoelectric point: 5.8
Predicted Molecular Mass: 61.5kDa
Accurate Molecular Mass: 70kDa as determined by SDS-PAGE reducing conditions.
Phenomenon explanation:
The possible reasons that the actual band size differs from the predicted are as follows:

1. Splice variants: Alternative splicing may create different sized proteins from the same gene.
2. Relative charge: The composition of amino acids may affects the charge of the protein.
3. Post-translational modification: Phosphorylation, glycosylation, methylation etc.
4. Post-translation cleavage: Many proteins are synthesized as pro-proteins, and then cleaved to give the active form.
5. Polymerization of the target protein: Dimerization, multimerization etc.

[USAGE]

Reconstitute in 10mM PBS (pH7.4) to a concentration of 0.1-1.0 mg/mL. Do not vortex.

[STORAGE AND STABILITY]

Storage: Avoid repeated freeze/thaw cycles.
Store at 2-8°C for one month.
Aliquot and store at -80°C for 12 months.

Stability Test: The thermal stability is described by the loss rate. The loss rate was determined by accelerated thermal degradation test, that is, incubate the protein at 37°C for 48h, and no obvious degradation and precipitation were observed. The loss rate is less than 5% within the expiration date under appropriate storage condition.

[SEQUENCE]

ERVGCDLQPVDPTRGEVTFTTSQVSEGCVAQAANAVREVHVLFLDFPGMLSHLELTLQASKQ
NGTETQEVFLVLVSNKNVFVKFQAPEIPLHLAYDSSLVIFQGQPRVNITVLPSLTSRKQILDWAAT
KGAITSIAALDDPQSIVLQLGQDPKAPFLCLPEAHKDMGATLEWQPRAQTPVQSCRLEGVSGH
KEAYILRILPGSEAGPRTVTVMMELSCTSGDAILILHGPPYVSWFIDINHSMQILTTGEYSVKIFPG
SKVKGVELPDTPQGLIAEARKLNASIVTSFVELPLVSNVSLRASSCGGVFQTTPAPVVTTPPKDTC
SPVLLMSLIQPKCGNQVMTLALNKKHVQTLQCTITGLTFWDSSCQAEDTDDHLVLSSAYSSCG
MKVTAHVVSNEVIISFPSGSPPLRKKVQCIDMDSLSFQLGLYLSPHFLQASNTIELGQQAFVQVS
VSPLTSEVTVQLDSCHLDLGPEGDMVELIQSRTAKGSCVTLLSPSPEGDPRFSFLLRVYMVPTPT
AGTLSCNLALRPSTLSQEVYKTVSMRLNIVSPDLSGKG

[ACTIVITY]

Endoglin (ENG) is a transmembrane glycoprotein that serves as a co-receptor for transforming growth factor-beta (TGF-b) superfamily ligands, particularly TGFb3 and TGFb3. Primarily expressed on vascular endothelial cells, ENG plays pivotal roles in angiogenesis, vascular remodeling, and maintaining vascular integrity. It modulates TGF-b signaling by forming complexes with type I and II TGF-b receptors, influencing both SMAD-dependent and non-SMAD pathways. ENG exists as two isoforms (long and short) generated by alternative splicing, with

differential signaling capabilities. Its critical involvement in cardiovascular development is evidenced by ENG mutations causing hereditary hemorrhagic telangiectasia (HHT), a vascular dysplasia disorder. Beyond vasculature, ENG participates in inflammation, wound healing, and cancer progression, where its expression often correlates with tumor angiogenesis and metastasis. The soluble form (sENG) has emerged as a potential biomarker for preeclampsia and cardiovascular diseases.To detect the activity of recombinant ENG, a functional ELISA assay was performed to evaluate the interaction between recombinant mouse ENG and recombinant human TGFb3.Briefly, biotin-linked ENG were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100 μl were then transferred to TGFb3-coated microtiter wells and incubated for 1h at 37℃. Wells were washed with PBST 3 times and incubation with Streptavidin-HRP for 30min, then wells were aspirated and washed 5 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37℃. Finally, add 50μl stop solution to the wells and read at 450nm immediately. The binding activity of ENG and TGFb3 was shown in Figure 1, the EC50 for this effect is 0.56μg/mL.

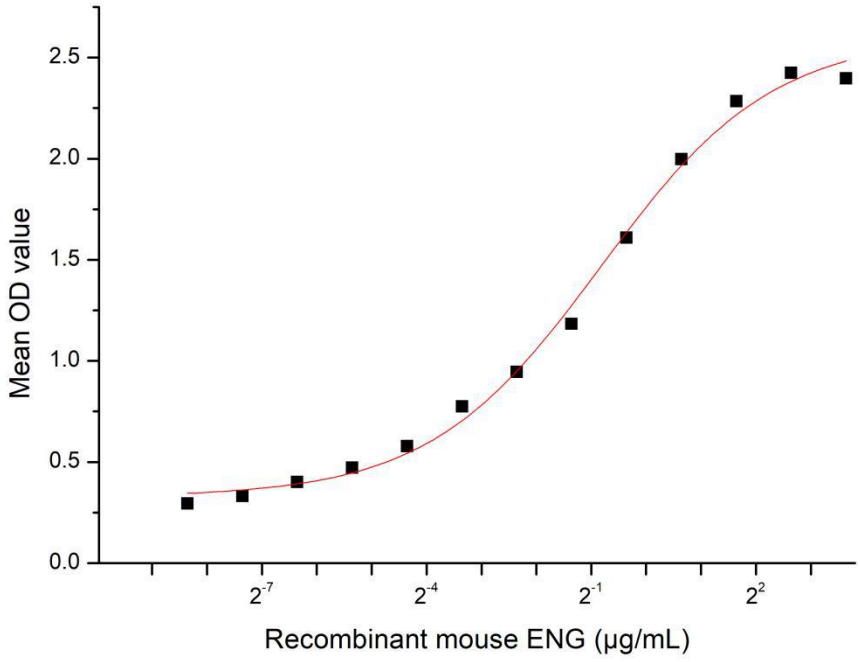

Figure 1. The binding activity of recombinant mouse ENG and recombinant human TGFb3

[IDENTIFICATION]

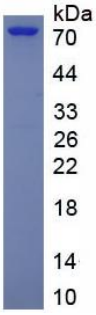

Figure 2. SDS-PAGE

Sample: Active recombinant ENG, Mouse

[IMPORTANT NOTE]

The kit is designed for research use only, we will not be responsible for any issue if the kit was used in clinical diagnostic or any other procedures.