

PRODUCT SPECIFICATION

Recombinant anti-human Tensin4 nanobody 12.

Catalogue number: sdAb-Tensin4-Nb12



Background

Tensin is a component of the cytoskeleton and localizes close to or at focal adhesions, connecting the cytoplasmic tail of integrins with actin filaments. It contains a C-terminal SH2 and PTB (phosphotyrosine-binding domain). It binds tyrosine-phosphorylated proteins that assemble into signaling complexes at focal adhesions. **TNS4**, or CTEN as it is also known, does not contain an N-terminal region with an actin binding domain unlike the other isoforms. TSN4 is reported to regulate cell motility and may affect metastasis of cancer cells. Its expression has been reported to be down regulated in prostate cancer, but upregulated in lung and breast cancer. The SH2 domain of CTEN was shown to bind directly to phosphorylated MET receptor, thus stabilizing the protein and preventing its degradation in lysosomes.

Sources: wikipedia, wikigenes, atlas genetics oncology, PubMed.

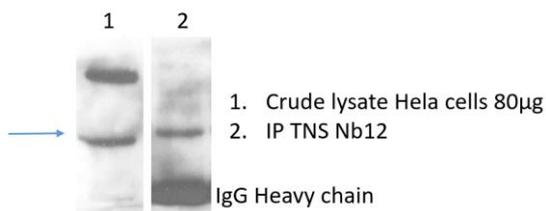


Model depicting Tensin 4 (CTEN), a 715 amino acids long protein, with the SH2 and PTB domains.

Applications: PD, IP, ELISA. This product is for R&D use only, not for drug, diagnostic, therapeutic, household, or other uses. Western blot has not yet been tested.

Nanobody functionality:

Immunoprecipitation of endogenous tensin 4 HeLa cell extracts with tensin 4 nanobody.



Procedure: 1 mg protein extract from HeLa cells (lyzed in 20 mM Tris/HCl pH 7.5, 1 % Triton X-100, inhibitor cocktail and PMSF) was incubated with 1 µg HA-tagged tensin 4 nanobody 12 for 1 hour at 4°C. Next, this mixture was added to 10 µl anti-HA antibody coupled to settled sepharose beads, again for 1 hr at 4°C. Following 4 washes with 1 ml lysis buffer, Laemmli sample buffer was added to the beads and boiled for 2 minutes. The supernatant was size fractionated by SDS-PAGE (10%) and then proteins were transferred to nitrocellulose by conventional blotting. The blot was blocked with 5% milk powder in Tris buffered saline. Primary antibody was mouse monoclonal anti TNS4 Ab 1/500 dilution. A HRP-coupled antibody was used as secondary. Finally, the blot was exposed hyperfilm for 40 minutes. Lane 1 contains another protein in the lysate that is also detected by the monoclonal antibody. Tensin 4 in lane 4 appears to

migrate slightly faster than tensin 4 in lane 2, but this is due to the presence of a multitude of other proteins in lane 1 (crude extract).

Source and properties

Tensin4 nanobody 12 was raised by immunizing a llama with a fragment of Tensin4 encompassing residues 428-714, covering the SH2 and PTB domain. It binds to Tensin4 with an **affinity of 1 nM**. Its epitope has not yet been determined.

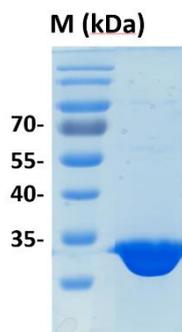


Figure: purified tensin 4 fragment used for immunization. SDS-PAGE (10% gel) followed by Coomassie staining. M = protein standards (kDa).

Availability: Nanobody 12 comes with a COOH-terminal HA or Myc epitope tag. Available in 100 µg, 500 µg, 1000 µg quantities. For bulk amounts, please inquire.

Expression host: VHH single domain antibody purified from *E. coli*.

Cross reactivity: Reactivity of this nanobody with Tensin from other species has not been tested.

Storage buffer: 20 mM Tris-HCl pH 8.0, 150 mM NaCl, 1mM DTT, 60 % glycerol. Store at -20°C. The sample will not freeze. Maintain sample in cold environment during transport to increase longevity.

Stability: Store at -20°C upon arrival. For long term storage, aliquot and store at -80°C. Avoid repeated freeze/thaw cycles.

Product citations:

/

Please enquire about other tensin 4 nanobodies at info@gulliverbiomed.com