

**APB681Ra01 100µg
Active Band 3 (BND3)**

**Organism Species: *Rattus norvegicus (Rat)*
Instruction manual**

FOR RESEARCH USE ONLY
NOT FOR USE IN CLINICAL DIAGNOSTIC PROCEDURES

13th Edition (Revised in Aug, 2023)

[PROPERTIES]

Source: Prokaryotic expression.

Host: *E. coli*

Residues: Ile558~Phe675

Tags: N-terminal His-tag

Purity: >95%

Endotoxin Level: <1.0EU per 1µg (determined by the LAL method).

Buffer Formulation: PBS, pH7.4, containing 0.01% SKL, 5%Trehalose .

Original Concentration: 200µg/mL

Applications: Cell culture; Activity Assays.

(May be suitable for use in other assays to be determined by the end user.)

Predicted isoelectric point: 10.6

Predicted Molecular Mass: 16.9kDa

Accurate Molecular Mass: 17kDa as determined by SDS-PAGE reducing conditions.

[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]

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IKI FQDYPLQESY APVVMKPKPQ GPVPNTALLS LVLMVGTFLI  
AMMLRKFKNK TYFPGKLRV IGDFGVPIK LIMVLVDTFI KNTYTQKLSV  
PDGLKVSNSK ARGWVHPLG LYNHF
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[ACTIVITY]

Band 3 (BND3), also known as Anion Exchanger 1 and SLC4A1, is a 90-100 kDa polytopic membrane protein that is part of the anion exchanger (AE) family and is expressed in the erythrocyte plasma membrane, where it mediates the exchange of the cellular HCO₃⁻ with Cl⁻ in plasma. BND3 is required for normal flexibility and stability of the erythrocyte membrane and for normal erythrocyte shape via the interactions of its cytoplasmic domain with cytoskeletal proteins, glycolytic enzymes, and hemoglobin. Scaffold protein Ankyrin 3, Node Of Ranvier (ANK3) can Interacts with BND3, thus a functional binding ELISA assay was conducted to detect the interaction of recombinant rat BND3 and recombinant human ANK3. Briefly, biotin-linked BND3 were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100 ul were then transferred to ANK3-coated microtiter wells and incubated for 1h at 37 °C . 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°C . Finally, add 50 µl stop solution to the wells and read at 450 nm immediately. The binding activity of recombinant rat BND3 and recombinant human ANK3 was shown in Figure 1, the EC₅₀ for this effect is 0.35 ug/mL.

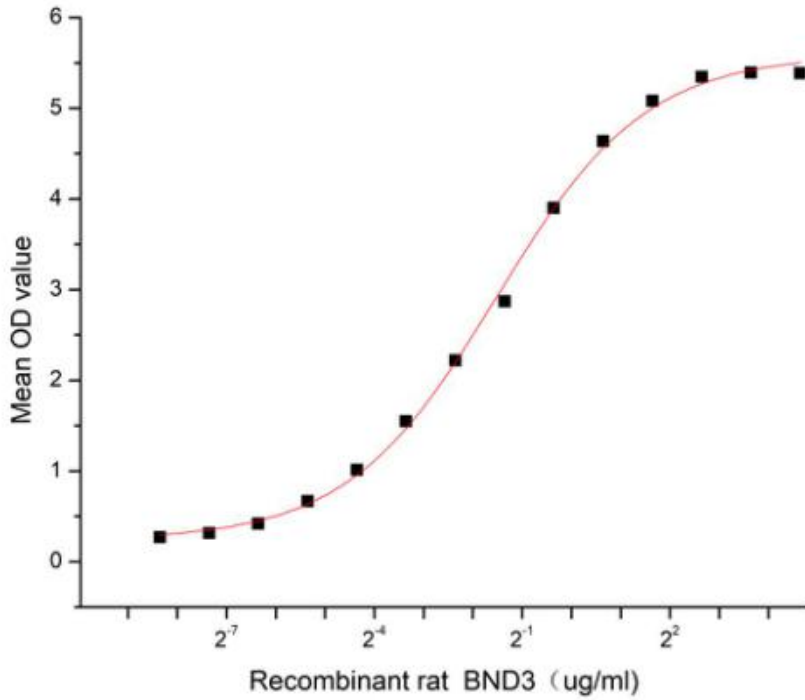


Figure 1. The binding activity of recombinant rat BND3 and recombinant human ANK3

[IDENTIFICATION]

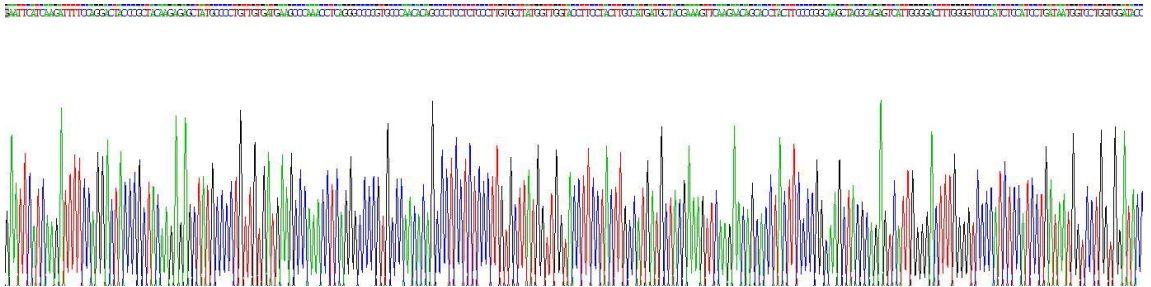


Figure 2. Gene Sequencing (extract)

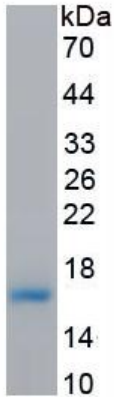


Figure 3. SDS-PAGE

Sample: Active recombinant BND3, Rat

[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.