APH274Hu01 100μg
Active Glutaminyl Peptide Cyclotransferase (QPCT)
Organism Species: *Homo sapiens* (Human)
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: Val29~Leu361
Tags: N-terminal His-tag
Purity: >90%
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: 5.7
Predicted Molecular Mass: 41.6kDa
Accurate Molecular Mass: 40kDa 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 2-8ºC for one month.
Aliquot and store at -80ºC 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 37ºC 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]

VS PSASAWPEEK NYHQPAILNS
SALRQIAEGT SISEMWQNDL QPLLIERYPG SPGSYAARQH IMQRIQRLQA
DWVLEIDTFL SQTPYGYRSF SNIISTLNPT AKRHLVLACH YDSKYFSHWN
NRVFVGATDS AVPCAMMLEL ARALDKKLLS LKTVSDSKPD LSLQLIFFDG
EEAFLHWSPQ DSLYGSRHLA AKMASTPHPP GARGTSQLHG MDLLVLLDLI
GAPNPTFPNF FPNSARWFER LQAIEHELHE LGLLKDHSLE GRYFQNYSYG
GVIQDDHIPF LRRGVPVLHL IPSPFPEVWH TMDDNEENLD ESTIDNLNKI
LQVFVLEYLH L

[ACTIVITY]

Glutaminyl Peptide Cyclotransferase (QPCT), also known as Glutaminyl Cyclase, is an enzyme responsible for the biosynthesis of pyroglutamyl peptides. QPCT is present in the pituitary and adrenal glands, where it is important for the generation of the N-terminal pyroglutamyl groups of peptide hormones such as neurotensin and thyrotropin-releasing hormone. Besides, Cathepsin B (CTSB) has been identified as an interactor of QPCT, thus a functional binding ELISA assay was conducted to detect the interaction of recombinant human QPCT and recombinant rat CTSB. Briefly, QPCT was diluted serially in PBS with 0.01% BSA (pH 7.4). Duplicate samples of 100 μl were then transferred to CTSB-coated microtiter wells and incubated for 1h at 37℃. Wells were washed with PBST and incubated for 1h with anti-QPCT pAb, then aspirated and washed 3 times. After incubation with HRP labelled secondary antibody for 1h at 37℃, wells were aspirated and washed 5 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37℃. Finally, add 50 μL stop solution to the wells and read at 450/630 nm immediately. The binding activity of recombinant human QPCT and

recombinant rat CTSB was shown in Figure 1, the EC50 for this effect is 0.09 ug/mL.

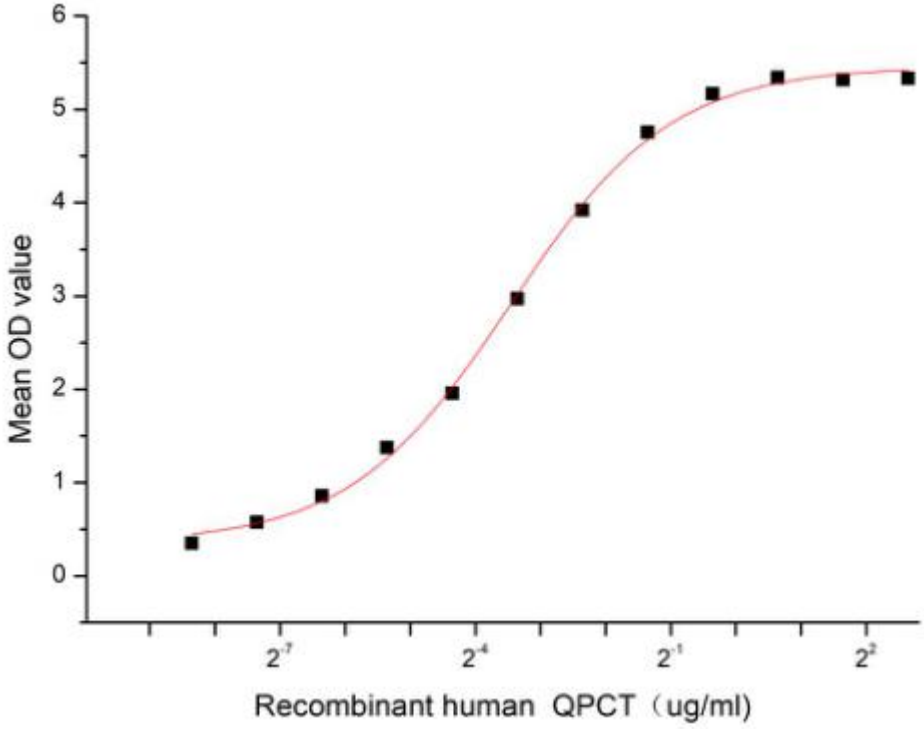

Figure 1. The binding activity of recombinant human QPCT and recombinant rat CTSB

[IDENTIFICATION]

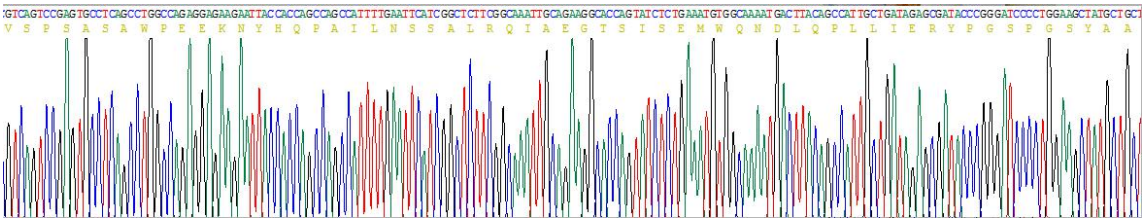

Figure 2. Gene Sequencing (extract)

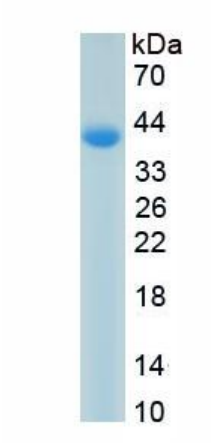

Figure 3. SDS-PAGE

Sample: Active recombinant QPCT, Human

[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.