

Norepinephrine Transporter (NET) Antibodies

Cat. NET11-S	Rabbit Anti-Rat NET antiserum	SIZE: 100 ul
Cat. NET11-A	Rabbit Anti-Rat NET IgG (aff pure)	SIZE: 100 ug
Cat. NET11-P	Rat NET Control or blocking peptide	SIZE: 100 ug

At most synapses, chemical signaling is terminated by a rapid uptake of neurotransmitter into presynaptic terminals. Uptake systems for the biogenic amines are the initial site of action for therapeutic antidepressants and drugs such as cocaine and the amphetamines. The reuptake of noradrenaline occurs via a specific Na(+)- and Cl(-)-dependent transport system, which is the target for tricyclic antidepressants such as desipramine and imipramine.

Noradrenaline transporter or epinephrine transporter (**NET or NTT1 or NAT1 or SLC6A2**) gene (chromosome 16) encodes a protein of 617 aa (mouse 617 aa, ~94% identity), with 12-13 transmembrane domains, and cytoplasmic N and C-termini. Expression of the cDNA clone in transfected HeLa cells indicated that noradrenaline transport activity is sodium-dependent and sensitive to selective noradrenaline transport inhibitors. NET mRNA has been localized to the brain stem and adrenal. The predicted protein sequence demonstrated significant amino acid identity with the Na(+)/gamma-aminobutyric acid transporter, thus identifying a new gene family for neurotransmitter transporter proteins. Alternative splicing of NET mRNA produces two transporter isoforms, rNETa and rNETb, which differ at their COOH termini. The rNETa isoform reveals a COOH terminus homologous to human NET and transports norepinephrine. In contrast, rNETb revealed no detectable transport function but reduced functional expression of rNETa when both isoforms were expressed in the same cell.

Source of Antigen and Antibodies

Antigen	22-aa peptide of Rat NET Designated (NET11-P or control peptide) conjugated to KLH; epitope location ~ N-terminus, Extracellular domain
Ab Host/type	Rabbit, polyclonal Unpurified antiserum (cat # NET11-S) Aff pure IgG (cat #NET11-A) purified over antigen-agarose column
2-ab	Anti-rabbit IgG-HRP cat # 20320 (AP, biotin, FITC conjugates also available)
-ve control	Cat # 20009-1, Rabbit (non-immune) Serum IgG, purified, suitable for ELISA, Western, IHC as -ve control

Form & Storage of Antibodies/Peptide Control

Antiserum (unpurified)
 00ul solution lyophilized powder
 Supplied in Buffer: 0.05% azide
Reconstitute powder in 100 ul PBS

Affinity pure IgG

100 ug/100ul solution lyophilized powder
 Supplied in Buffer: PBS+0.1% BSA
Reconstitute powder in PBS at 1mg/ml

Control/blocking peptide

100 ug/100 ul solution lyophilized powder
 Supplied in Buffer: PBS pH 7.5,
Reconstitute powder in PBS at 1 mg/ml.

Storage

Short-term: unopened, undiluted liquid vials at -200C and powder at 4oC or -20oC..

Long-term: at -20C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at -20oC or below.

Shipping: 4oC for solutions and room temp for powder

Recommended Usage

Western Blotting (1:1K-5K for neat serum and 1-10 ug/ml for affinity pure using Chemiluminescence technique).

ELISA (1:10K-1:100K; using 50-100 ng of control peptide/well).

Histochemistry & Immunofluorescence: Not tested. We recommend the use of affinity purified antibody at 2-10 ug/ml.

Specificity & Cross-reactivity

The rat NET11-P peptide sequence is 100% conserved in mouse and 90% in human, monkey, bovine NET and 85% in chicken NET. The peptide shows no significant homology with other known proteins. The NET antibody cross-reactivity in other species is not known. Control peptide, because of its low mol. Wt (<3 kDa), is not suitable for Western. It should be used for ELISA or antibody blocking experiments (use 5-10 ug control peptide per 1 ug of aff pure IgG or 1 ul antiserum) to confirm antibody.

General References:

(1) Bruss et al (1995) JBC 270 9197-9201; Pacholczyk et al, (1991) Nature 350, 350-354; Melikian et al (1994) JBC 269, 12290-12297; Fritz JD et al (1998) J. Neurochem. 70, 2241-2251; Porzgen P et al (1995) BBRC 215, 1145-1150; Kitayama S et al (1999) JBC,274, 10731-6.

(2) Citations of ADI's Antibodies (see web site for updated list)

Green BT, 2003, J Neuroimmunol. 141, 74-82, IHC
 Kantor L, 2002, Eur J. Pharmacol. 451, 27-35, WB

*This product is for *in vitro* research use only.