



FabGennix Inc.  
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New Item  
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## Solute Carrier Family 6 (Neurotransmitter Transporter Antibodies)

### Anti-Norepinephrine Transporter (NET) Antibodies (NET-100P and NET-101AP).

Catecholamine, a term used for hormones epinephrine (E) and its sequentially hydroxylated form, Nor epinephrine (NE) are involved in fight or flight responses. NE is released from the post ganglionic sympathetic nerve endings and exerts its effects locally in the immediate vicinity of its release (1). In CNS, NE is involved in a number of physiological responses including mood, sleep regulation, alertness and arousal, both cognitive and non-cognitive expression of behaviors and control of endocrine and autonomic nervous system. Peripherally, NE is present in sympathetic nerve endings and have full control of sympathetic nervous system. The released NE from pre synaptic nerve terminals is re absorbed (70-90%) by Nor-epinephrine transporters (NET) and its biological effects are terminated. The NE transport via NET is an active, Na<sup>+</sup>/Cl<sup>-</sup> dependent- transport process mediated by NET (2). NETs constitute the primary mechanism for inactivation of synaptically released NE, are targets for multiple antidepressants and psycho stimulants, and are deficient in affective and autonomic disorders. In rat brain, NET is expressed in noradrenergic neuronal somata, axons, and dendrites, and hippocampus and cortex, but was absent from epinephrine- and dopamine-containing neurons (3).

At least 13 genetic variations have been reported in the NET protein (3) that affect NE re-uptake and concentrations in cerebrospinal fluid in humans. The association between these genetic variations in NET and several psychiatric and cardiovascular disorders are just emerging (1, 4). Recently, single amino acid mutation (hNET-A457P) showed deficiency in NE transport in a orthostatic intolerance patient (5). NET protein consists of 617 amino acids and has 12 trans-membrane domains, a characteristic feature of many membrane associated solute transporters. Our NET (NET-100P and NET-101AP) antibodies label a 85kDa protein in our western blot positive control samples.

The NET-1-selective antibodies were generated against unique N-terminal peptide that are unique to NET-1 protein. FabGennix Inc. has generated specific antibodies to various other transporter proteins. These antibodies are raised utilizing linear, multiple antigenic peptides or cyclic peptide methodology. The NET antibodies are characterized by. The NET antibodies have been fully characterized (ELISA, WB, immunoprecipitation protocol) for their cross reactivity with other members of transporter family. FabGennix Inc. has produced antibodies to multiple epitopes on the same protein, thus allows a detailed characterization of physiological role of various functional domains on protein.

| Catalog #  | Description                                    | Antigen/Positive control  | Cross reactivity | Qty/vol    |
|------------|--|---------------------------|------------------|------------|
| NET-100P*  | Anti-Norepinephrine Transporter Antibodies     | N-terminal peptide        | R, M, H          | 100ul      |
| NET-101AP* | Affinity purified Anti-NE transporter Antibody | C-terminal-region peptide | R, M, H          | 100ug      |
| *P-NET     | Antigenic blocking peptide                     | Antigenic peptide         | 250 ug           | 250ug      |
| PC-NET     | Western blot positive control                  | Rat NET protein           | 5 Applications   | For 5 appl |

R = rat; M = mouse; H = humans; R = rabbit \* Actual volume is 103-110 µl; WB, Western Blot analyses; IMM, Immunoprecipitation; IHC, Immunohistochemistry, n.d, not determine.

Concentration: NET-100P = neat serum; NET-101AP = IgG concentration 0.5-0.75 mg/ml.

Applications: ELISA: Antibody dilution 1:4,000 for ELISA or DOT blot assay. W.B: Antibody dilution 1:500-1,000 for WB using PC-NET as sample. IMM: n.d; IHC n.d

Reactivity: The antibodies NET-100P and NET-101AP label 83-85 kDa NET protein in PC-NET sample.

Protocols: Standard protocol for various applications (Western blot; immunoprecipitation and immunohistochemistry) of this antibody is provided with the product specification sheet, however, FabGennix Inc. recommends investigators to optimize conditions.

Form/Storage: The antiserum is supplied in antibody stabilization buffer with preservatives. For long-term storage of antibody, store at -20°C FabGennix Inc. does not recommend storage of very dilute antibody solutions unless they are prepared in specially formulated multi-use antibody dilution buffer (Cat # DiluOBuffer). Working solutions of antibodies in DiluOBuffer should be filtered through 0.45µ filter after every use for long-term storage.

### References:

1. Tallioglou T and Robertson D. Expert Rev. Mol. Med. Accession # (01)00387-8h.htm (short code:txt001drn); 19 Nov. 2001.
2. Baker E. L., and Blakely R. D. NE and 5HT transporters. Mol. Targets for antidepressant drugs. Raven Press New York.
3. Schroeter S, Apparsundaram S, Wiley RG, Miner LH, Sesack SR, Blakely RD. J Comp Neurol. 2000 May 1;420(2):211-32. Related Articles, Links
4. Susic S, Bryan-Lluka LJ., Brain Res Mol Brain Res. 2002 Dec;108(1-2):40-50. Related Articles, Links
5. Hahn M. K., Robertson D., Blakely R. D. J. Neurosciences 23, 4470-4478; 2003.

\*Note: Briefly centrifuge tube to collect liquid. Heat or boil PC-NET1 tube for 1-2 minutes to dissolve any precipitate before use. This product is "ready-to-use" for electrophoresis. After thawing store at room temperature, Repeated freezing and thawing may result in appearance of higher molecular weight immunoreactive bands.

\* For users who may require large amounts of NET-100P and NET-101AP, please enquire about bulk material discounts.

This Product is for Research Use Only and is NOT intended for use in humans or clinical diagnosis.

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