SANTA CRUZ BIOTECHNOLOGY, INC.

$GABA_B$ R1 (661-960): sc-4524 WB

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

GAD-65 and GAD-67, glutamate decarboxylases of 65 kDa and 67 KDa, respectively, function to catalyze the production of GABA (γ-aminobutyric acid). In the central nervous system GABA (γ-aminobutyric acid) functions as the main inhibitory transmitter by increasing a Cl- conductance that inhibits neuronal firing. GABA has been shown to activate both ionotropic ($GABA_A$) and metabotropic ($GABA_B$) receptors as well as a third class of receptors called $GABA_C$. Both $GABA_A$ and $GABA_C$ are ligand-gated ion channels, however, they are structurally and functionally distinct. Members of the $GABA_A$ receptor family include $GABA_A$Rα1-6, $GABA_A$Rβ1-3, $GABA_A$Rε, $GABA_A$Rδ, and $GABA_A$Rγ1-3. The $GABA_B$ family is composed of $GABA_B$R1α and $GABA_B$R1β. GABA transporters have also been identified and include GABA T-1, GABA T-2 and GABA T-3 (also designated GAT-1, -2, and -3). The GABA transporters function to terminate GABA action.

REFERENCES

1. Nelson, H., Mandiyan, S., and Nelson, N. 1990. Cloning of the human brain GABA transporter. FEBS Lett. 269: 181-184.
2. Cherubini, E., Gaiarsa, J.L., and Ben-Ari, Y. 1991. GABA: an excitatory transmitter in early postnatal life. Trends Neurosci. 14: 515-519.
3. Borden, L.A., Smith, K.E., Hartig, P.R., Branchek, T.A., and Weinshank, R.L. 1992. Molecular heterogeneity of the γ-aminobutyric acid (GABA) transport system. Cloning of two novel high affinity GABA transporters from rat brain. J. Biol. Chem. 267: 21098-21104.
4. Dirkx, R. Jr., Thomas, A., Li, L., Lernmark, A., Sherwin, R.S., De Camilli, P., and Solimena, M. 1995. Targeting of the 67-kDa isoform of glutamic acid decarboxylase to intracellular organelles is mediated by its interaction with the NH2-terminal region of the 65-kDa isoform of glutamic acid decarboxylase. J. Biol. Chem. 270: 2241-2246.
5. Lukasiewicz, P.D. 1996. $GABA_C$ receptors in the vertebrate retina. Mol. Neurobiol. 12: 181-194.
6. Kaupmann, K., Huggel, K., Heid, J., Flor, P.J., Bischoff, S., Mickel, S.J., McMaster, G., Angst, C., Bittiger, H., Froestl, W., and Bettler, B. 1997. Expression cloning of GABA(B) receptors uncovers similarity to metabotropic glutamate receptors. Nature 386: 239-246.
7. Korpi, E.R., Mattila, M.J., Wisden, W., and Luddens, H. 1997. GABA(A)-receptor subtypes: clinical efficiency and selectivity of benzodiazepine site ligands. Ann. Med. 29: 275-282.

SOURCE

$GABA_B$ R1 (661-960) is expressed in *E. coli* as a 64 kDa tagged fusion protein corresponding to amino acids 661-960 of $GABA_B$ R1α of human origin.

PRODUCT

$GABA_B$ R1 (661-960) is purified from bacterial lysates (>98%) by glutathione agarose affinity chromatography; supplied as 10 µg in 0.1 ml SDS-PAGE loading buffer.

APPLICATIONS

$GABA_B$ R1 (661-960) is suitable as a Western blotting control for sc-7338, sc-7339 and sc-14006.

STORAGE

Store at -20° C; stable for one year from the date of shipment.

RESEARCH USE

For research use only, not for use in diagnostic procedures.