Technical Bulletin

Anti-D_1 Dopamine Receptor Antibody, Rat Monoclonal

Clone 1-1-F11 s.E6, purified from hybridoma cell culture

D2944

Product Description

Anti-D1 Dopamine Receptor (rat IgG2a isotype) is derived from the rat hybridoma 1-1-F11 S.E6 produced by the fusion of mouse myeloma cells and splenocytes from rat immunized with recombinant fusion protein containing the C-terminal 97 amino acid of human D1 dopamine receptor (Gene ID: 1812).[1]

Anti-D1 Dopamine Receptor recognizes human, monkey, and rat D1 Dopamine Receptor. The antibody may be used in various immunochemical techniques including immunohistochemistry, immunoblotting (~ 50 kDa) and immunocytochemistry.[2-5]

Dopamine receptors belong to the family of seven transmembrane domain G protein coupled receptors. They were initially divided into two general categories on the basis of differences in receptor pharmacology and biochemical mechanisms of signal transduction. With the application of the techniques of molecular biology, two predominant dopamine receptors, D_1 and D_2, were cloned. Later other dopamine receptors with homology to either the D_1 or D_2 receptor were identified. Thus, at present, two families of vertebrate dopamine receptors (designated as D_1-like and D_2-like) are recognized. The D_1-like family consists of the D_1 and D_5 receptors, generally associated to a stimulatory function, while the D_2- like family consists of the D_2, D_3 and D_4 receptors, generally associated to an inhibitory function.[6] Dopamine receptors are mainly localized in the striatum, limbic system, the brain cortex and the infundibulum. However, the presence of the dopamine receptors has been demonstrated in most areas of the central nervous system.[6] The D_1 and D_2 receptors occur in sufficiently high concentrations that they can be studied in situ, while D_3, D_4, and D_5 receptors occur in such low concentrations that study of them in situ is difficult. Thus, the majority of study of these receptors has been accomplished using cell lines cloned to express these receptors.

Reagent

The product is supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide as a preservative.

Antibody concentration: ~ 1 mg/mL

Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For extended storage, freeze at -20 °C in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discard if not used within 12 hours.

Product Profile

Immunocytochemistry: A working concentration of 5-10 µg/mL is recommended using D1 Dopamine receptor transfected HEK-293T cells.

Note: In order to obtain the best results in various techniques and preparations, we recommend determining optimal working concentration by titration.

References

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4. Yung, K.K.L., et al., Neuroscience, 65, 709-730 (1995).
5. Fiorentini, C., et al., J. Biol. Chem., 278, 20196-20202 (2003).
6. Pivonello, R., et al., Eur. J. Endocrinol., 156, S13-S21 (2007).

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D2944dat Rev07/22