

PrecisION[®] hnAChR $\alpha 7$ /ric3 Recombinant Stable Cell Line

Catalog Number CYL3097

Lot Number

See Vial

Contents 2 Vials, 2 x 10⁶ to 4 x 10⁶ in 1 mL

Background Information

$\alpha 7$ nicotinic acetylcholine (nACh7) receptors are predominantly expressed in the CNS, including the hippocampus, cortex and ventral tegmental area. Nicotinic ACh7 receptors are involved with LTP, memory and attention deficits and so are drug development targets for diseases of cognition including Alzheimer's and schizophrenia. The nACh7 receptors are rapidly desensitized, have homopentameric architecture and respond to agonists including nicotine, acetylcholine, AR-R17779 and epibatidine. Additional information can be found on page 2.

Product Information

Description Recombinant HEK cell line expressing the human nAChR $\alpha 7$ ion channel subunit and the chaperone ric3

Family Potassium, Ligand-Gated

Target nAChR $\alpha 7$ /ric3

	Target Protein	Accession Number
1	nAChR $\alpha 7$	NM_000746.4
2	ric3	NM_024557.3
3	N/A	N/A
4	N/A	N/A

Species Human

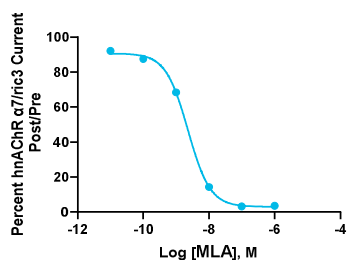
Host Cell Type HEK 293

Application Electrophysiology assay (conventional and automated patch clamp platforms)

Storage Vials are to be stored in vapor phase of liquid nitrogen

Functional Performance

HEK293 cells expressing hnAChR $\alpha 7$ /ric3 were characterized in terms of their pharmacological and biophysical properties using whole-cell patch clamp techniques.



Electrophysiology Method IonFlux

Reference Agonist Acetylcholine

Reference Antagonist MLA

Antagonist IC₅₀ (μ M) 2.00

Passage Stability

This cell line has been confirmed to be stable through at least 12 passages with no significant drop in assay window or change in pharmacology.

Mycoplasma Testing

This lot was tested and found to be free of mycoplasma contamination. Data available upon request.

Notes

Additional functional (pharmacological and electrophysiological) validation on multiple platforms is available upon request.

Additional Ligand Information

Control Compound MLA

Vendor Name : Tocris

Vendor Catalog No. 1029

Additional Background Information

In addition the currents are blocked by the competitive antagonist methyllycaconitine. Drug discovery efforts have also identified positive allosteric modulators such as PNU-120596 which increase the potency of activators such as acetylcholine without causing desensitization. This cell line also expresses the ric3 chaperone protein as when co-expressed with the nACh7 receptor, ric-3 significantly increases surface expression.

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