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(54) Title: 3-SUBSTITUTED-2(ARYLALKYL)-1-AZABICYCLOALKANES AND METHODS OF USE THEREOF

(57) Abstract: The present invention relates to 3-substituted-2-(arylalkyl)-1-azabicycloalkanes, methods of preparing the compounds and methods of treatment using the compounds. The azabicycloalkanes generally are azabicycloheptanes, azabicyclooctanes, or azabicyclononanes. The aryl group in the arylalkyl moiety is a 5- or 6-membered ring heteroaromatic, preferably 3-pyridinyl and 5-pyrimidinyl moieties, and the alkyl group is typically a C1-4 alkyl. The substituent at the 3-position of the 1-azabicycloalkane is a carbonyl group-containing moiety, such as an amide, carbamate, urea, thioamide, thiocarbamate, thiourea or similar functionality. The compounds exhibit activity at nicotinic acetylcholine receptors (nAChRs), particularly the $\alpha 7$ nAChR subtype, and are useful towards modulating neurotransmission and the release of ligands involved in neurotransmission. Methods for preventing or treating conditions and disorders, including central nervous system (CNS) disorders, which are characterized by an alteration in normal neurotransmission, are also disclosed. Also disclosed are methods for treating inflammation, autoimmune disorders, pain and excess neovascularization, such as that associated with tumor growth.

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