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(54) Title: BISEETHERS OF 1-OXA, AZA AND THIANAPHTHALEN-2-ONES AS PHOSPHOLAMBAN INHIBITORS ✓

(57) Abstract

Therapeutically active compounds of formula (I) or (II), in which R₁ is hydrogen, alkyl, alkenyl, aryl, arylalkyl, hydroxyalkyl, halogenalkyl, alkoxy, COR₁₀, CONR₁₀R₁₁, OR₁₀, S(O)_mR₁₀, NR₁₀COR₁₁ or NR₁₀R₁₁, where R₁₀ is hydrogen, alkyl, alkenyl, aryl, arylalkyl, hydroxyalkyl, halogenalkyl, alkoxy or hydroxy and R₁₁ is hydrogen, alkyl, aryl, arylalkyl, alkoxy, aryloxy, hydroxy or acyl, or in case where X is NR₁₁, R₁ can also be carboxylalkyl; R₆ is hydrogen, alkyl, alkenyl, aryl, arylalkyl; R₂ and R₇ mean hydrogen, alkyl, aryl, arylalkyl, alkenyl, COR₁₀, CONR₁₀R₁₁, halogen, trifluoromethyl, nitro or cyano, where R₁₀ and R₁₁ are defined as above; R₃ is hydrogen, alkyl, aryl or arylalkyl; A means alkyl or substituted alkyl, m is 0-2 and n is 1-3; Y means O, NR₁₁ or S, where R₁₁ is the same as above; X means O, NR₁₁ or S, where R₁₁ is the same as above; R₄, R₅, R₈ and R₉ mean independently one of the following groups (a), (b), (c), (d), (e), (f), (g), or in case where X is NR₁₁, R₄, R₅, R₈ and R₉ can also independently mean HOOC-, R₁₂OOC-, H₂NCO- or HOHNCO-, wherein R₁₂ means alkyl, arylalkyl or aryl, and wherein each aryl residue defined above by itself or as part of another group may be substituted, and pharmaceutically acceptable salts and esters thereof. The compounds have phospholamban inhibiting activity and are useful for treating heart failure.

