

CONFORMATIONALLY-FLEXIBLE BENZAMIDE ANALOGS AS SIGMA-2 SELECTIVE LIGANDS

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T-004063

The sigma-2 (σ_2) receptor is an important target for the development of molecular probes in oncology because of its 10-fold higher density in proliferating tumor cells than in quiescent tumor cells, and the observation that σ_2 receptor agonists are able to kill tumor cells via apoptotic and non-apoptotic mechanisms. Novel benzamide compounds are disclosed that target σ_2 receptors. Their radiolabeled counterparts can be used for imaging the proliferative status of solid tumors, such as breast cancer. These compounds, when labeled with ^{18}F , can be used as radiotracers for imaging of tumors by positron emission tomography (PET). And when labeled with ^{123}I , they can be used for imaging of tumors by single photon emission computed tomography (SPECT).