



The sphingolipid cascade and its signaling molecules occur to have a key role in different cell growth controlling mechanisms. Especially the three signaling molecules ceramide, sphingosine and sphingosine-1-phosphate are significantly involved in apoptosis, differentiation, migration and cell proliferation processes. While ceramide and sphingosine are regarded to promote apoptosis, sphingosine-1-phosphate appears to encourage cell growth and proliferation. This fact makes sphingosine-1-phosphate and its biosynthesis a target of interest for various diseases which are linked to these processes like inflammatory diseases, autoimmune disorders and cancer. As sphingosine-1-phosphate is synthesized from sphingosine by sphingosinekinases, the inhibition of this enzyme which exists in two isoforms, SphK1 and SphK2 is an approach for intervention. Different sphingosinekinase inhibitors with 2-aminothiazole motif should be synthesized and biologically evaluated for their inhibitory properties and isoform profiles. These influences on basic lipid signaling influences cancer as well as bacterial proliferation and thereby, are important targets related to this GRK.

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