Development on furazan derivatives as potential STAT-3 inhibitors

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STAT-3 (signal transduction and activator of transcription 3) is a cytosolic protein that, in its activated form, directly relates extracellular signals from the membrane to the nucleus. It is the member of STAT family most closely linked to tumour genesis as STAT-3 signalling might contribute to malignancy by preventing apoptosis. Since the inhibition of STAT-3 leads to apoptosis in tumour cells selectively, it represents a promising target for cancer therapy. As a part of our ongoing research, a new series of furazan derivatives, (see figure) were synthesized, studied by molecular modelling, X-ray analysis and tested as STAT-3 inhibitors. The obtained results will be presented.