Development on furazan derivatives as potential STAT-3 inhibitors

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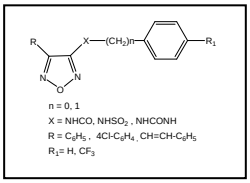

STAT-3 (signal transduction and activator of transcription 3) is a cytosolic protein that, in its activated form, directly relates extracellular signals from the membrane to the nucleous[1]. It is the member of STAT family most closely linked to tumour genesis[2] as STAT-3 signalling might contribute to malignancy by preventing apoptosis**.** Since the inhibition of STAT-3 leads to apoptosis in tumour cells selectively[3], 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.

1. Costantino, L.; Barlocco, D. *Curr. Med. Chem.* **2008**, *15*(9), 834-843. 2. Aggarwal, B.B.; Sethi, G.; Ahn, K.S.; Sandur, S. K.; Pandey, M.K.; Kunnumakkara, A.B.; Sung, B.; Ichikawa, H. *Ann. N. Y. A. S.* **2006**, *1091*, 151-169. 3. Bowman, T.; Broome, M. A.; Sinibaldi, D.; Wharton ,W.; Pledger, W. J.; Sedivy, J. M.; Irby, R.; Yeatman, T.; Courtneidge, S. A.; Jove, R. *P.N.A.S.* **2001**, *98*(13), 7319-7324.