stimulating impact on mRNA expression of pro-IL-1ß in macrophage-like THP-1 cells. When differentiated THP-1 cells were stimulated with 4 mM IS for 24-h we found a two-fold increase in IL-1ß mRNA expression. Further, we find a significant increase in caspase-1 and caspase-4 in these cells. However, IL-1ß protein levels seem to be only marginally elevated in IS stimulated samples. Analysing the biological activity of the THP-1 derived supernatants in the HEK-Blue™ IL-1ß cell line, we did not find a SEAP increase in samples stimulated with the IS-derived THP-1 supernatants.
CONCLUSION: Analysing the effects of indoxyl sulphate in the THP-1 model systems we provide evidence for the first time that the inflammatory caspase-4 and/or caspase-5 is activated in monocyte-like cells without increasing IL-1ß levels. Therefore, one can conclude that IS is not an archetypical NLRP3 inflammasome activator but may contribute to cell death via caspase-4 activation.

FC 021 SAFFRON-DERIVED BIOACTIVE MOLECULES AND THEIR *IN-VITRO* ACTIVITY ON KIDNEY AND BLADDER TUMORAL CELLS

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BACKGROUND AND AIMS: Saffron is the dried stigmas of *Crocus sativus L.* *Crocus sativus L* belongs to the family of Iridaceae and is mainly cultivated in several countries with mild and dry climates. It is one of the most expensive spices in the world and the main reason for its great cost is that saffron is still cultivated and harvested as it has been for millennia by hand. Saffron's name is derived from the Arab word for yellow, a name reflecting the high concentration of carotenoid pigments present in the saffron flowers' stigmas which contribute most to the colour profile of this spice. Saffron contains numerous bioactive molecules known for their antioxidant activities, but also some such as picrocrocin, crocetin and Safranal (Sfr), Crocin (Crc) which are known to possess the ability to inhibit tumoral growth by inducing apoptosis. The aim of this study is to understand whether these four saffron-derived bioactive molecules display tumoral growth inhibition activity on kidney and bladder cancer cell lines.

	Tuscany		Lombardy	
	2018	2017	2018	2017
Crocins	10	7.3	9.12	6.44
Safranal	Traces	0.06	0.96	2
Picrocrocin	6.67	5.8	5.57	1.6
Flavonoids	0.9	0.74	1.88	1.66
Total	17.57	13.91	17.53	9.76

METHOD: Saffron samples used for this purpose possess both different origins (Tuscany and Lombardy) and harvesting years (T_2017, T_2018, L_2017, L_2018) and, in addition, Sfr and Crc standard samples were also tested. Identification of Crocins, Safranal, Picrocrocin and Flavonoids was carried out by HPLC/DAD and HPLC/MS analysis. The identity of polyphenols was ascertained using data from HPLC/DAD analyses by comparison and combination of their retention times and UV/Vis spectra with those of authentic standards and previously reported data (Vignolini *et al.*, 2008). The extract characterization is summarized in the table below. The extracts' effects on cancer cell viability were evaluated through MTT assays and the tumoral cell lines chosen were Caki-1 and 786-O for the kidney and RT112 and RT4 for the bladder. MDCK cells were used as a healthy kidney model.
RESULTS: In the presence of both pure Sfr and Crc, *post-hoc* tests have shown a time and concentration-dependent decrease in viability for all the cancerous models in analysis, with more visible results observable for Crc, while having no effect on MDCK viability. Being Crc is the most represented molecule in all the extracts, before performing MTT assays, a normalization of this compound's concentration was carried out. L_2017, which contained the highest Sfr concentration among all the extracts tested, showed the highest inhibiting activity. Hypothesizing that Sfr was the molecule responsible for the decrease in cancer cell viability, all extracts and Sfr and Crc standards were tested on RT112 cells after normalizing the contents of these two molecules for each condition. We observed that Crc and Sfr alone and the Sfr-Crc mix had a small impact on cancer cell viability when compared with the effects of whole extracts.
CONCLUSION: Whole extracts demonstrated a higher impact on cancer cell viability compared with the standards tested both singularly and combined. This study, therefore, recognizes that numerous molecules in combination with Sfr and Crc have a role in reducing tumoral cell viability, demonstrating that the phyto-complex may possess higher therapeutic effects.