

MEETING ABSTRACTS

TOXICITY TESTING OF NEW POTENTIAL ANTHELMINTICS IN PARASITIC NEMATODE *HAEMONCHUS CONTORTUS* AND OVINE LIVER

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Haemonchus contortus, a widely distributed parasitic nematode of ruminants, has become resistant to most anthelmintic classes. Therefore, there has been a major demand for new compounds effective against *H. contortus* and related nematodes. Previous phenotypic screening and further testing have revealed one compound, substituted benzamide BLK127, active against *H. contortus* larvae and adults (1,2). Based on these results, 13 derivatives of this compound were designed and synthesized. The aim of the present study was to assess the toxicity of these derivatives in *H. contortus* eggs and adults and their potential hepatotoxicity in sheep *in vitro*. Isolated eggs and adults from sheep experimentally infective with *H. contortus* of three strains (one drug-sensitive and two drug-resistant) and precise cut ovine liver slices were used. Only one compound significantly inhibited the egg hatching. On the other hand, four compounds significantly decreased the viability of *H. contortus* adults at micromolar concentrations. Some of them were effective not only in the drug-sensitive strain but also in the drug-resistant strains. None of the derivatives exhibited a hepatotoxic effect, even at the highest concentration tested (100 µM). Based on these findings, the two most potent compounds were selected for further testing *in vivo*.

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Keywords: anthelmintic activity; viability testing; ATP bioluminescent assay; precise cut liver

References

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