

QUALITY ASSESSMENT OF STUDIES INCLUDED AS EMPIRICAL EVIDENCE

Quality assessment of the selected studies was performed using the online tool SciRap (Science in Risk Assessment and Policy)¹. The tool provides different sets of criteria for reporting and methodological quality as well as the relevance of *in vivo* and *in vitro* toxicity studies. Therefore, the knockout studies were not included in the quality assessment leaving 17 studies for analysis. *In vitro* and *in vivo* studies were considered equally relevant; thus, *in vitro/in vivo* relevance was excluded from the assessment. The results are presented in Tables 2 and 3.

<i>In vitro/Ex vivo</i> Reference	Reporting Quality (%)	Methodological Quality (%)
(Sandy Lenie & Smitz, 2009)	83.33	78.57
(Murray et al., 1998b)	73.81	71.43
(Wang et al., 2001)	66.67	71.43
(Laird et al., 2017)	80.95	75.00
(M Lebbe et al., 2017)	73.81	64.29
(González-Sanz et al., 2020)	88.10	78.57
(Kai Xue et al., 2014)	80.95	71.43
(Kai Xue et al., 2012)	76.19	64.29
(Orisaka et al., 2009)	71.43	57.14
(Yang & Fortune, 2006)	78.57	75.00
(Hickey et al., 2004)	77.27	75.00
(Hickey et al., 2005)	77.27	71.43
(Magamage et al., 2011)	83.33	75.00
AVERAGE	77.82	71.43

Table 1: Quality assessment scores of studies included as empirical evidence that are based in *in vitro/ex vivo* experiments. Quality assessment was performed using the *in vitro* checklist of SciRAP.

<i>In vivo</i> Reference	Reporting Quality (%)	Methodological Quality (%)
(K Knapczyk-Stwora et al., 2013)	81.82	86.67
(K Knapczyk-Stwora et al., 2018)	81.82	83.33
(K Knapczyk-Stwora et al., 2019)	88.10	83.33
(Kumari et al., 1978)	53.33	71.88
AVERAGE	76.27	81.30

Table 2: Quality assessment scores of studies included as empirical evidence that are based in in vivo experiments. Quality assessment was performed using the in vivo checklist of SciRAP.

Some issues that came up frequently among the in vitro studies included: not describing solubility of the test compound; not stating the vehicle; not using antibiotics in the culture media; not disclosing the absence of competing interests between authors. For the in vivo studies, there were no mention of how to distinguish the individual animals and most of the studies were lacking information on housing conditions. Currently, the SciRAP tool does not provide recommendations for interpretation of the quality assessment values.

1. SCIRAP - Start. (2020). Available at: <http://www.scirap.org/>. (Accessed: 14th December 2020)