

**Table 4.** Major advantages and limitations of nontraditional in vivo testing in AA

<b>Advantages</b>	<b>Limitations</b>
Tissue and organ specific	Increased difficulty in determining mechanism by which the chemical may be causing toxicity
Response more accurately represents how the organism will respond	Does not necessarily translate across species
Integrative, can show systematic impact including impacts on behavior	Longer and more expensive than grouping, HTS, and in silico
Provides confidence that you are testing the metabolites, although not necessarily the human metabolites	In some jurisdictions, it is legally limited or prohibited
Faster than traditional full-rodent studies	In some cases, better at assessing short-term impacts than long-term impacts
Need for fewer animals	—
Can be paired with mechanistic information to shorten study length	—
Can study exposure-specific impacts	—
Easier to integrate into AA	—
Applicable to mixtures	—

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AA = alternatives analysis; HTS = high-throughput screening.