Evaluation of Bisphenol Analogues

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The bisphenol class of chemicals is made up of over 20 analogues, some of which are utilized in commercial and consumer products. The most notable member of this class of chemicals is bisphenol A (BPA) and concerns about its possible endocrine activity, as well as that of any of its analogues, have led the NTP to develop an integrated bisphenol assessment program, with collaborations both within and outside of the NTP.

Evaluation of the class has been broken into several phases:

The first phase leverages initial NTP efforts to determine biological and structural similarities and differences in bisphenol analogues to help build a matrix of essential information. These include an assessment of published literature, an evaluation *in vitro* data, a review of the high throughput screening (HTS) information for similarity profiling and endocrine activity, utilization of alternative toxicity tests (e.g., zebrafish, *C. elegans*), and characterization of toxicokinetic/ADME profiles.

The second phase is an *in vivo* toxicity evaluation of select analogues in rodents, including a perinatal exposure window to assess the potential for reproductive and developmental toxicity, and a review of the dose-response effects on target organ systems with a focus on endocrine, reproductive, and developmental endpoints.

The third phase is an iterative process encompassing evaluation of the literature, *in vitro,* HTS, alternative tests, and all *in vivo* evaluations to continually improve the database of information, compare and contrast analogues and assay viability, and develop a model for evaluating potential toxicity in this class of chemicals. Finally, these data will be compared to the available human data to help determine if there are public health concerns.