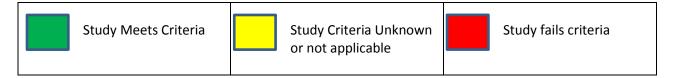


BPA Study Report Card – Pharmacokinetic Criteria

The criteria identified in this Report Card have been established by the U.S. Food and Drug Administration in critical aspects of Pharmacokinetics studies for evaluation of BPA studies as it relates to human exposures.*

http://www.fda.gov/downloads/Food/IngredientsPackagingLabeling/FoodAdditivesIngredients/UCM424071.pdf



Study: Bisphenol A Exposure in Children With Autism Spectrum Disorders

Authors: T. Peter Stein, Margaret D. Schluter, Robert A. Steer, Lining Guo, and Xue Ming

Journal: Autism Research (2015)

CRITERIA	SCORE	COMMENTS
Analytical methodology sufficiently		
validated and reported		Poor design with no control over contamination
Measurement of both the conjugated and		Although measured, the data is
unconjugated (aglycone or "free") forms		so inconsistent with any previous
of BPA		reported BPA metabolism, the study is clearly fraught with
		contamination issues
Preferred dosing with isotopically labeled		Did not use isotopically labeled
ВРА		ВРА
Quality of methods used, with the highest		
weight given to mass spectrometric		Little details about methods of
methods, particularly liquid-		analysis
chromatography–tandem mass		
spectrometry (LC/MS/MS)		
Use of isotope dilution quantification		
(i.e., use of isotopically-labeled internal		
standards) of at least 3 atomic mass units is preferred because of higher		
performance		
Adequate demonstration of quality		
control in sample preparation and		Levels of reported Free BPA fall
analysis (i.e., laboratory reagent and		outside of published norms.
sample collection blanks, matrix spikes at		Clear case of contamination
relevant concentrations, authentic		
standards)		
For determination of pharmacokinetic		
parameters, samples obtained from		
individual animals (and humans) were		
considered more powerful statistically		
than those derived from pooled/averaged		
determinations		

Note: Previous studies (Teeguarden, NIEHS) study confirmed >99% glucuronidation from human oral exposure; this study suggests ~90%. The Free BPA numbers are independent of total BPA. This suggests a constant level of contamination. Based on report, study did not include control for contamination, no measured dose, no description of the population, and no diet information. The study is not suitable for characterizing differences in metabolism, or exposure. A single spot urine sample is uninformative with regards to long term exposure, and even daily exposure. The study did not consider reverse causation, that ASD children consume more canned goods versus control subjects.