

**Table 5S-12 Summary of epidemiologic studies of exposure to sulfur dioxide and fetal growth.**

Study	Location (sample size)	Mean SO <sub>2</sub> (ppb)	Exposure Assessment	Selected Effect Estimates <sup>a</sup> (95% CI)
<a href="#">Liu et al. (2003)</a>	Vancouver, Canada (n = 229,085)	4.9	Nearest monitor, census subdivision	IUGR (those with birth weight falls below the 10th percentile, by sex and gestational week, of all singleton live births in Canada between 1986 and 1998, term) M1: 1.07 (1.01, 1.13) Last month: 1.00 (0.94, 1.06) T1: 1.07 (1.00, 1.14) T2: 0.98 (0.91, 1.04) T3: 1.03 (0.96, 1.10)
<a href="#">Brauer et al. (2008)</a>	Vancouver, Canada (n = 70,249)	5.3	Inverse distance weighting of three closest monitors within 50 km, 14 SO <sub>2</sub> monitors	SGA (those with birth weights below the 10th percentile of the cohort, stratified by sex, for each week of gestation) EP: 1.02 (1.00, 1.03)
<a href="#">Rich et al. (2009)</a>	New Jersey, U.S.	T1: 5.7 T2: 5.6 T3: 5.5	Nearest monitor (within 10 km)	VSGA (growth ratio <0.75) T1: 1.00 (0.92, 1.08) T2: 1.04 (0.96, 1.13) T3: 1.05 (0.97, 1.14)
<a href="#">Le et al. (2012)</a>	Detroit, MI, U.S. (n = 112,609)	24 h: 5.6 All M: 5.8 All T: 5.8	Nearest monitor (zip code within 4 km of one of three monitors)	SGA (infants whose birth weights fell below the 10th percentile by sex and gestational week, based on study population's distribution, term) 1st mo Q1: ref Q2: 0.96 (0.99, 1.03) Q3: 1.00 (0.94, 1.07) Q4: 1.04 (0.97, 1.13) Adjusted for CO, NO <sub>2</sub> , and PM <sub>10</sub> Q1: ref Q2: 1.00 (0.83, 1.20) Q3: 0.99 (0.83, 1.17) Q4: 0.93 (0.78, 1.11)

**Table 5S-12 (Continued): Summary of epidemiologic studies of exposure to sulfur dioxide and fetal growth.**

Study	Location (sample size)	Mean SO <sub>2</sub> (ppb)	Exposure Assessment	Selected Effect Estimates <sup>a</sup> (95% CI)
Continued	Continued	Continued	Continued	<p>Last month</p> <p>Q1: ref</p> <p>Q2: 1.01 (0.95, 1.07)</p> <p>Q3: 0.94 (0.88, 1.01)</p> <p>Q4: 0.98 (0.91, 1.05)</p> <p>Adjusted for CO, NO<sub>2</sub>, and PM<sub>10</sub></p> <p>Q1: ref</p> <p>Q2: 0.99 (0.83, 1.18)</p> <p>Q3: 0.97 (0.82, 1.15)</p> <p>Q4: 1.03 (0.86, 1.23)</p> <p>1st mo</p> <p>T1, adjusted for CO, NO<sub>2</sub>, and PM<sub>10</sub></p> <p>Q1: ref</p> <p>Q2: 1.18 (0.92, 1.51)</p> <p>Q3: 1.01 (0.83, 1.23)</p> <p>Q4: 1.05 (0.87, 1.28)</p> <p>T2, adjusted for CO, NO<sub>2</sub>, and PM<sub>10</sub></p> <p>Q1: ref</p> <p>Q2: 1.30 (1.01, 1.69)</p> <p>Q3: 1.12 (0.91, 1.37)</p> <p>Q4: 1.11 (0.90, 1.36)</p> <p>T3, adjusted for CO, NO<sub>2</sub>, and PM<sub>10</sub></p> <p>Q1: ref</p> <p>Q2: 1.17 (0.94, 1.45)</p> <p>Q3: 1.24 (1.02, 1.50)</p> <p>Q4: 1.31 (1.06, 1.60)</p>

**Table 5S-12 (Continued): Summary of epidemiologic studies of exposure to sulfur dioxide and fetal growth.**

Study	Location (sample size)	Mean SO <sub>2</sub> (ppb)	Exposure Assessment	Selected Effect Estimates <sup>a</sup> (95% CI)
<a href="#">Hansen et al. (2008)</a>	Brisbane, Australia (n = 14734)	1.2	Nearest monitor (postcode centroid)	<p>Head circumference (Δmm)</p> <p>M1: -8.31 (-18.13, 1.50)</p> <p>M2: -2.63 (-11.063, 5.88)</p> <p>M3: -5.00 (-14.75, 4.75)</p> <p>M4: 0.19 (-6.88, 7.25)</p> <p>Biparietal diameter (Δmm)</p> <p>M1: -4.25 (-6.81, -1.69)</p> <p>M2: -1.63 (-4.13, 0.88)</p> <p>M3: -1.13 (-3.81, 1.63)</p> <p>M4: -0.19 (-2.38, 1.94)</p> <p>Abdominal circumference (Δmm)</p> <p>M1: -9.31 (-19.31, 0.69)</p> <p>M2: -2.94 (-12.06, 6.13)</p> <p>M3: -10.44 (-18.34, -2.50)</p> <p>M4: -1.13 (-10.44, 8.19)</p> <p>Femur length (Δmm)</p> <p>M1: -0.75 (-3.63, 2.06)</p> <p>M2: 0.31 (-1.88, 2.50)</p> <p>M3: -1.56 (-3.88, 0.81)</p> <p>M4: 1.38 (-3.81, 1.06)</p>

IUGR = intra-uterine growth restriction; SGA = small for gestational age; VSGA = very small for gestational age; T = trimester; T1 = first trimester; T2 = second trimester, T3 = third trimester, EP = entire pregnancy; M = month; M1 = Month 1; M2 = Month 2; M3 = Month 3; M4 = Month 4; Q1 = 1st quartile; Q2 = 2nd quartile; Q3 = 3rd quartile; Q4 = 4th quartile; NR = no quantitative results reported; SO<sub>2</sub> = sulfur dioxide; ppb = parts per billion; CI = confidence interval; n = sample size; MI = Michigan; U.S. = United States of America; km = kilometer; h = hour; CO = carbon monoxide; NO<sub>2</sub> = nitrite; PM = particulate matter.

<sup>a</sup>Relative risk of fetal growth restriction per 5-ppb change in SO<sub>2</sub>, unless otherwise noted.