

Table 5S-6 Study-specific details of experimental studies of SO₂ and cardiovascular effects.

Reference	Species (strain); n; Sex; Lifestage/Age (mean ± SD)	Exposure Details (concentration; duration)	Endpoints Examined
Animal Toxicological Studies			
Halinen et al. (2000b)	Guinea pig (Duncan-Hartley); n = 7–12/group; M; mechanically ventilated	1,000, 2,500, and 5,000 ppb SO ₂ in cold dry air; 15 min pre-exposure to warm humid air, 10 min to cold dry air and each SO ₂ concentration or just cold dry air, 15 min recovery to warm humid air; intra-tracheal with hyperventilation (V _T = 11 mL/kg at 80 breaths/min) during cold exposures	Intra-carotid (right) pressure transducer measurements before, during, and after exposure: - Blood pressure - Heart rate
Halinen et al. (2000a)	Guinea pig (Duncan-Hartley); n = 8/group; M; mechanically ventilated	1,000 ppb SO ₂ in cold dry air; 60 min; intra-tracheal with hyperventilation (V _T = 11 mL/kg at 80 breaths/min)	Intra-carotid (right) pressure transducer measurements before, during, and after exposure: - Blood pressure - Heart rate
Nadziejko et al. (2004)	Rat (F344); n = 20/group; M; 18 mo old	1,200 ppb SO ₂ ; 4 h; nose-only inhalation	Electrocardiogram 24 h before, during, and 24 h after exposure: - Heart rate - Arrhythmia frequency
Baskurt (1988)	Rat (Swiss albino); n = 51; male; adult; age NR	0.87 ppm whole body exposure 24 h	Hematocrit, sulfhemoglobin, and osmotic fragility; Whole blood and packed cell viscosity
Controlled Human Exposure Studies			
Tunnicliffe et al. (2001)	Human; n = 2 healthy adults (age 22–49), 12 adults with physician diagnosed mild asthma (age 20–54); M/F	200 ppb SO ₂ ; 1 h at rest	Electrocardiogram 30 min before and during exposure: - Heart rate (maximum, minimum) - Heart rate variability (total power, HF power, LF power)

Table 5S-6 (Continued): Study-specific details of experimental studies of SO₂ and cardiovascular effects.

Reference	Species (strain); n; Sex; Lifestage/Age (mean ± SD)	Exposure Details (concentration; duration)	Endpoints Examined
Routledge et al. (2006)	Human; n = 20 healthy older adults (age 56–75), 20 older adults with stable angina, coronary artery disease (age 56–75); M/F	200 ppb SO ₂ and ultra-fine carbon particles (50 µg/m ³), separately and in combination; 1 h at rest	Electrocardiogram immediately before, immediately after, and 4 h after exposure: - Heart rate - Heart rate variability (SDNN, rMSSD, PNN50, LF power, HF power, α-HF index, α-LF index) - Blood pressure (mean arterial pressure) - Blood drawn 15 min before, immediately after, 4 h after, and 24 h after exposure: - Serum CRP, fibrinogen, D-dimer - Hemoglobin, platelet count, platelet aggregation, differential white cell count

SO₂ = sulfur dioxide; n = sample size; SD = standard deviation; M = male; ppb = parts per billion; min = minute; V_T = tidal volume; mo = month; h = hour; NR = not reported; F = female; HF = high frequency; LF = low frequency; m = meter; g = gram; SDNN = standard deviation of all normal-to-normal intervals; rMSSD = root mean square of successive differences; PNN50 = Proportion of pairs of successive normal sinus intervals exceeds 50 milliseconds divided by the total number of successive pairs of normal sinus intervals; CRP = C-reactive protein; D = distance in kilometers.