

Resource Summary Report

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SAPALDIA

RRID:SCR_013416

Type: Tool

Proper Citation

SAPALDIA (RRID:SCR_013416)

Resource Information

URL: <http://www.sapaldia.net/en/>

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Description: SAPALDIA (Swiss study on Air Pollution and Lung Disease in adults) is a multi-center study in eight geographic areas representing the range of environmental, meteorological and socio-demographic conditions of Switzerland, which studies the effects of air pollution on the respiratory and cardiovascular health in adults. Local centers are: Aarau, Basel, Davos, Geneva, Lugano, Montana, Payerne, and Wald. It was initiated in 1991 (SAPALDIA 1) with a follow-up assessment in 2002 (SAPALDIA 2). This study has allowed to assess 1) prevalence and development of major respiratory and allergic symptoms and diseases and the age-related decline in lung function, 2) the distribution of heart rate variability in the general population over age 50, 3) the association of these health indicators with individual long term exposure to air pollution, other toxic inhalants, life style and molecular factors. Another follow-up examination (SAPALDIA 3) started in January 2010. This study is well positioned to address crucial questions of air pollution epidemiology and important environmental health policy-related questions in the coming years. When SAPALDIA was initiated in 1991, 9'651 subjects, aged 18 to 60 years, were recruited for a detailed computer-based interview and more than 90% of them underwent lung function and atopy testing. More than 7'000 of the subjects had bronchial reactivity tested by a methacholine challenge. SAPALDIA shares parts of its study protocol with the European Community Respiratory Health Survey (ECRHS) with which it is linked through the study center of Basel. Since 1991 SAPALDIA has been carefully following address histories of its participants. In the 2002 follow-up, 8'047 (83%) provided health information, 6'528 persons underwent physical re-examination, and 6'345 provided blood samples to establish an extensive blood, plasma, serum and DNA bank. In addition, 1'813 subjects aged 50 or older participated in 24h-ECG Holter monitoring to provide detailed data on parameters of heart rate variability. With the inclusion of cardiovascular endpoints, SAPALDIA is one of the first studies examining effects from long-term exposure to air pollution on cardiovascular health parameters as well as mutual influence between the respiratory and the cardiovascular system. The SAPALDIA bio-bank has allowed scientific publications on the association between some genetic profiles (gene

polymorphism) and the propensity to develop asthma, allergic diseases, or accelerated lung function decline with age. Ongoing studies are focusing on gene-environment interactions a crucial question to understand why some persons suffer more from the effect of air pollution than others.

Abbreviations: SAPALDIA

Synonyms: SAPALDIA Cohort Study, Swiss study on Air Pollution and Lung Disease in adults, SAPALDIA Cohort

Resource Type: biomaterial supply resource, material resource

Keywords: blood, plasma, serum, dna, adult, clinical data, air pollution, respiratory system, cardiovascular system, lung disease, pulmonary medicine, environment, gene

Related Condition: Adult in geographical area of Switzerland: Aarau, Basel, Davos, Geneva, Lugano, Montana, Payerne, WaldAarau, Basel, Davos, Geneva, Lugano, Montana, Payerne, Wald, Aging

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Ratings and Alerts

No rating or validation information has been found for SAPALDIA.

No alerts have been found for SAPALDIA.

Data and Source Information

Source: [SciCrunch Registry](#)

Usage and Citation Metrics

We found 43 mentions in open access literature.

Listed below are recent publications. The full list is available at [kravitz2](#) .

Garcia-Aymerich J, et al. (2025) General population-based lung function trajectories over the life course: an accelerated cohort study. *The Lancet. Respiratory medicine*, 13(7), 611.

Doetzer J, et al. (2025) Methods and exploratory findings of the first Swiss agricultural health cohort FarmCoSwiss. *Scientific reports*, 15(1), 10690.

Uwitonze JP, et al. (2024) Cost-consequence analysis of computer vision-based skin prick tests: implications for cost containment in Switzerland. *BMC health services research*, 24(1), 988.

Chen Q, et al. (2024) Cost-effectiveness of population-based screening for chronic obstructive pulmonary disease in China: a simulation modeling study. *The Lancet regional health. Western Pacific*, 46, 101065.

Casella C, et al. (2023) Methylomic, Proteomic, and Metabolomic Correlates of Traffic-Related Air Pollution in the Context of Cardiorespiratory Health: A Systematic Review, Pathway Analysis, and Network Analysis. *Toxics*, 11(12).

Liang D, et al. (2023) A State-of-the-Science Review on High-Resolution Metabolomics Application in Air Pollution Health Research: Current Progress, Analytical Challenges, and Recommendations for Future Direction. *Environmental health perspectives*, 131(5), 56002.

Obas KA, et al. (2022) Depression and cardiovascular disease are not linked by high blood pressure: findings from the SAPALDIA cohort. *Scientific reports*, 12(1), 5516.

Probst-Hensch N, et al. (2021) Causal Effects of Body Mass Index on Airflow Obstruction and Forced Mid-Expiratory Flow: A Mendelian Randomization Study Taking Interactions and Age-Specific Instruments Into Consideration Toward a Life Course Perspective. *Frontiers in public health*, 9, 584955.

Cerletti P, et al. (2021) Perceived built environment, health-related quality of life and health care utilization. *PloS one*, 16(5), e0251251.

Eze IC, et al. (2020) Genome-Wide DNA Methylation in Peripheral Blood and Long-Term Exposure to Source-Specific Transportation Noise and Air Pollution: The SAPALDIA Study. *Environmental health perspectives*, 128(6), 67003.

Cerletti P, et al. (2020) The modifying role of physical activity in the cross-sectional and longitudinal association of health-related quality of life with physiological functioning-based latent classes and metabolic syndrome. *Health and quality of life outcomes*, 18(1), 345.

Hoang TT, et al. (2020) Epigenome-wide association study of DNA methylation and adult asthma in the Agricultural Lung Health Study. *The European respiratory journal*, 56(3).

Rezwan FI, et al. (2020) Association of adult lung function with accelerated biological aging. *Aging*, 12(1), 518.

Accordini S, et al. (2020) Incidence trends of airflow obstruction among European adults without asthma: a 20-year cohort study. *Scientific reports*, 10(1), 3452.

Amaral AFS, et al. (2020) Role of DNA methylation in the association of lung function with body mass index: a two-step epigenetic Mendelian randomisation study. *BMC pulmonary medicine*, 20(1), 171.

Imboden M, et al. (2019) Epigenome-wide association study of lung function level and its change. *The European respiratory journal*, 54(1).

Keidel D, et al. (2019) The Role of Socioeconomic Status in the Association of Lung Function and Air Pollution-A Pooled Analysis of Three Adult ESCAPE Cohorts. *International journal of environmental research and public health*, 16(11).

Mostafavi N, et al. (2019) The mediating effect of immune markers on the association between ambient air pollution and adult-onset asthma. *Scientific reports*, 9(1), 8818.

Gulliver J, et al. (2018) Land use regression models for the oxidative potential of fine particles (PM_{2.5}) in five European areas. *Environmental research*, 160, 247.

Beckmeyer-Borowko A, et al. (2018) SERPINA1 methylation and lung function in tobacco-smoke exposed European children and adults: a meta-analysis of ALEC population-based cohorts. *Respiratory research*, 19(1), 156.