



EP 04.08: SMARCA4: A bibliometric analysis based on the Web of Science database



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INTRODUCTION

Deficiency in SWI/SNF-related, matrix-associated, actin-dependent regulator of chromatin, subfamily A, member 4 (SMARCA4) is present in a variety of malignancies and is associated with aggressive behavior and resistance to chemotherapy or radiotherapy.

METHODS

An advanced search was conducted in the Web of Science Core Collection using the keywords “SMARCA4”. Document types are limited to article or review article, with no restrictions applied to other fields such as publication date. Bibliometric analysis was conducted with CiteSpace 6.4.R2 (64-bit).

RESULTS

The analysis included 1,418 publications (1,222 articles and 176 reviews) from 492 journals, involving 12,457 authors, 7,196 institutions, and 383 countries/regions. Leading authors by publication count and centrality were Agaimy Abbas (31; 0.06), Foulkes William D (26; 0.04), and Hasselblatt Martin (18; 0.04). Top institutions by publication count were Harvard University (104), Harvard University Medical Affiliates (99), and University of Texas System (80). By centrality, the leading institutions were Imperial College London (0.15), Baylor College of Medicine (0.09), and Broad Institute (0.09). The USA (568), People’s Republic of China (349), and Germany (160) produced the most publications, while the USA (0.26), Spain (0.17), and Australia (0.11) ranked highest by centrality. Key thematic clusters included: target, expression, hypercalcemic type, non-small cell lung cancer, atypical teratoid/rhabdoid tumor, chromatin remodeling, standards, sinonasal undifferentiated carcinoma, angiogenesis, and dysplasia. The keyword BRG1 had the longest citation burst (2004–2015). Recent burst keywords (2024–2026) were clinicopathological characteristics, efficacy, immune checkpoint inhibitor, and immune checkpoint inhibitors.

CONCLUSION

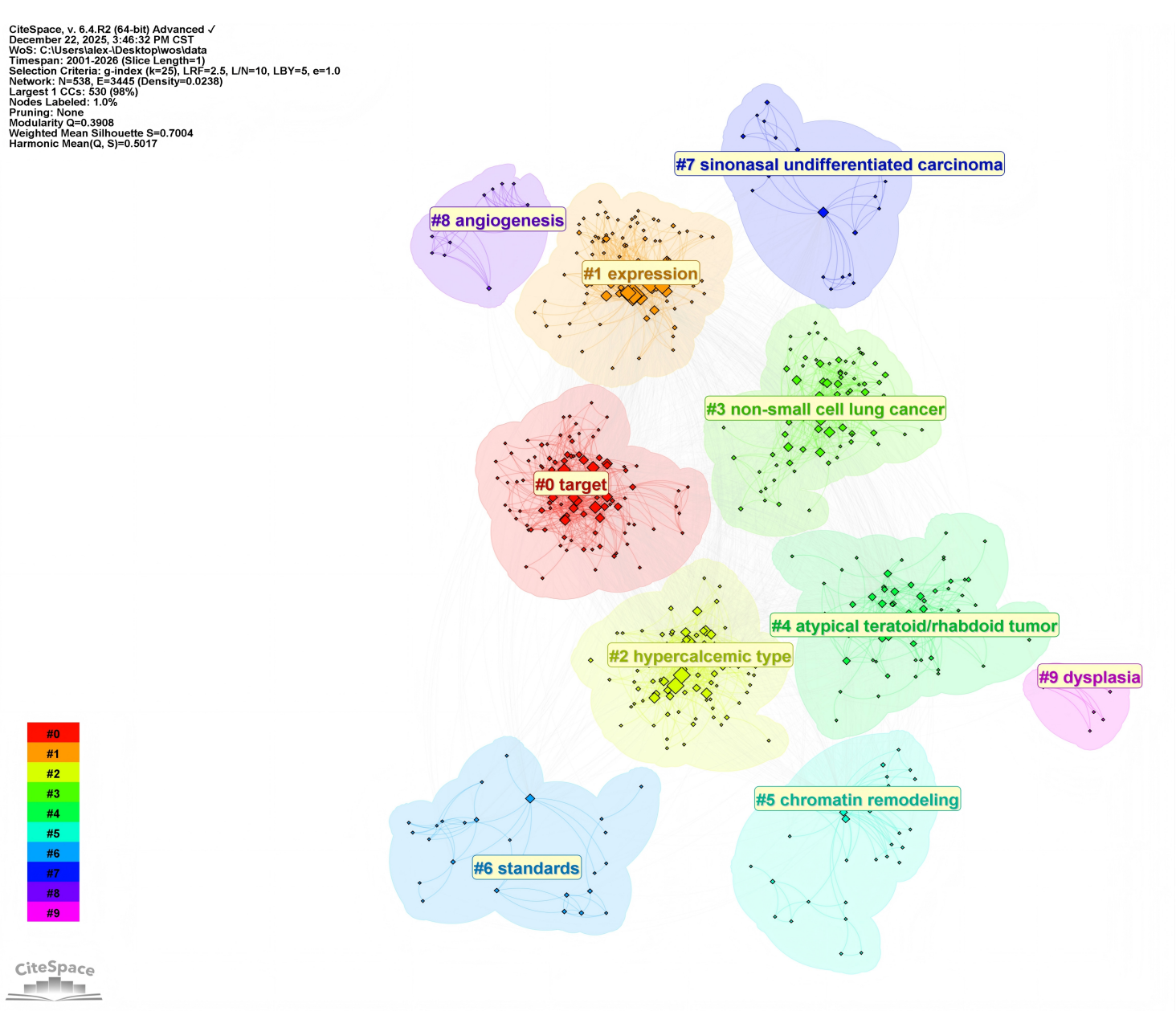
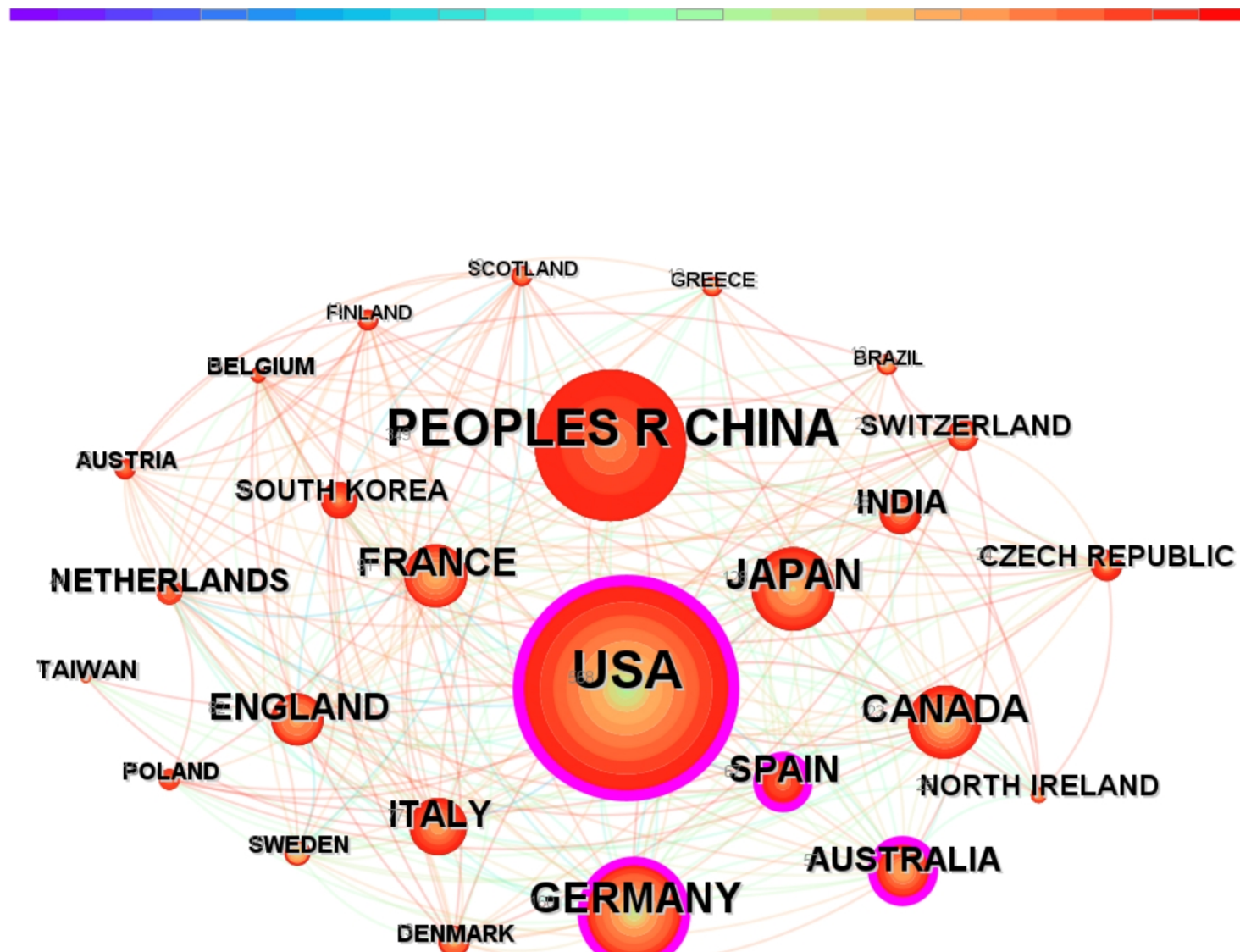
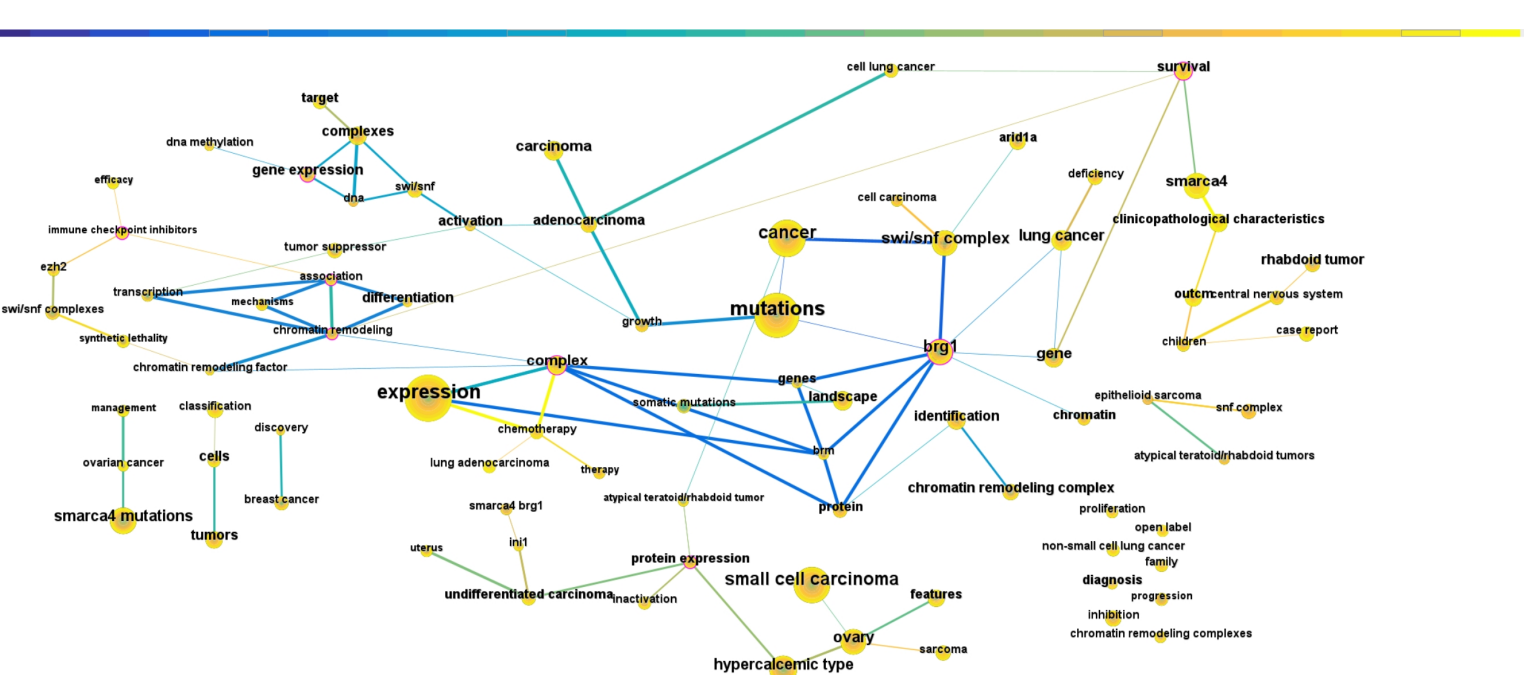
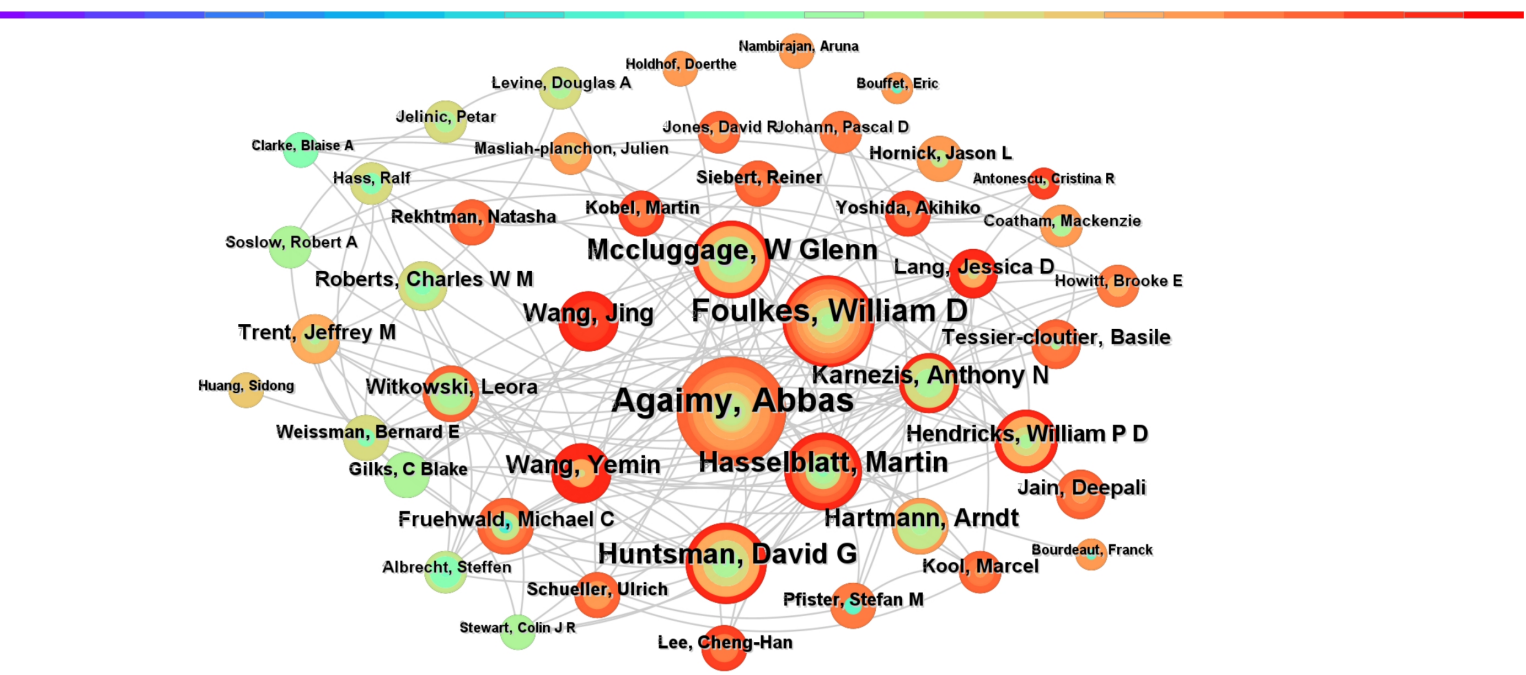
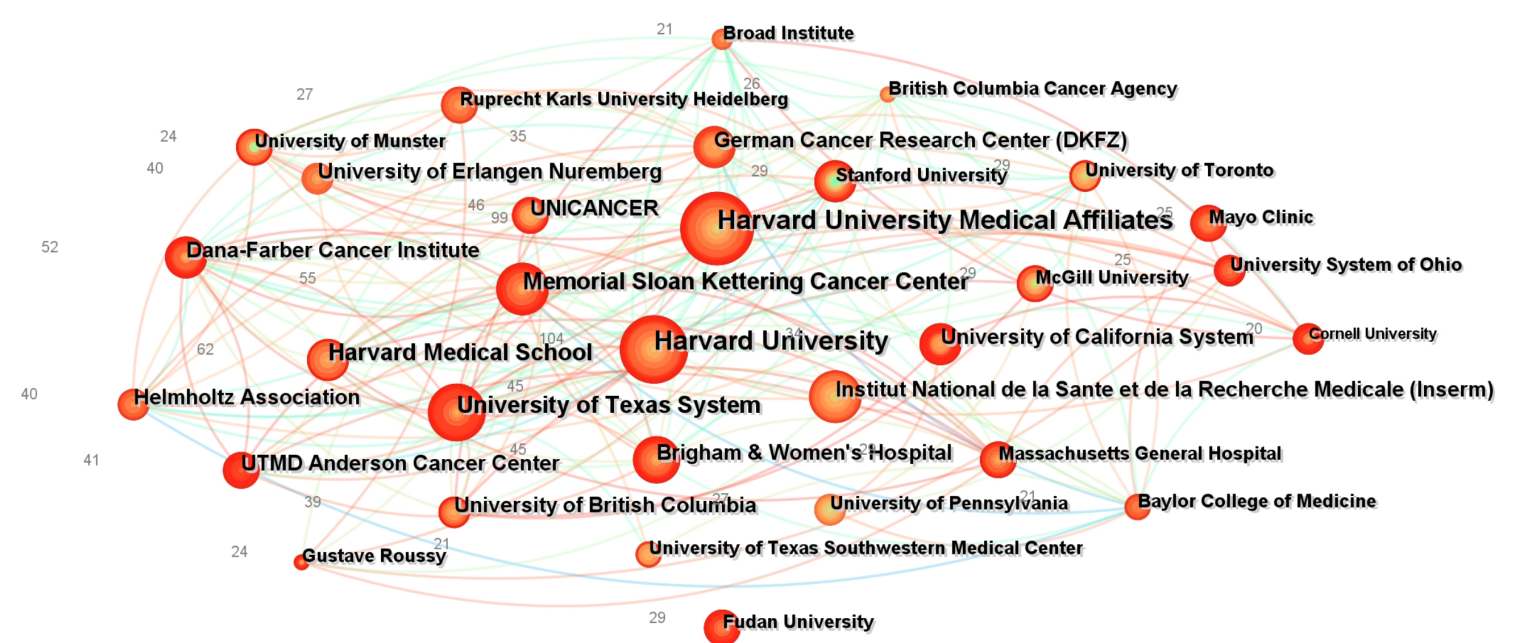
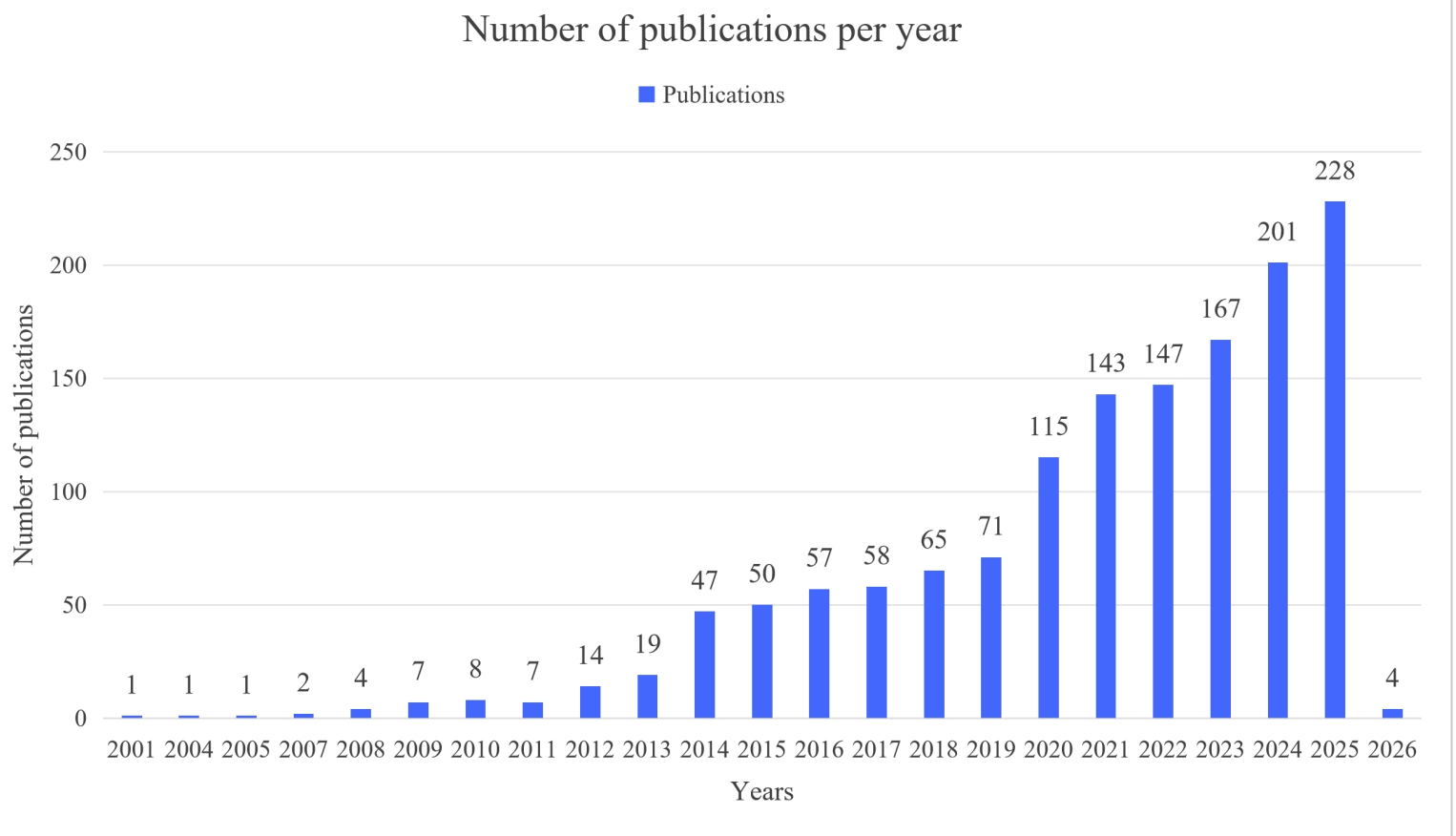
Actionable Take Away Message

- This study identifies the key research landscape of SMARCA4-deficient malignancies, highlighting major hotspots including chromatin remodeling, non-small cell lung cancer, atypical teratoid/rhabdoid tumor, clinicopathological characteristics, and immune checkpoint inhibitors, while recognizing leading contributors such as Agaimy Abbas, Harvard University, and the USA.

Future Direction for Research

- This study highlights immune checkpoint inhibitors as a promising future direction for SMARCA4-deficient malignancies and provides insights into molecular characterization, therapeutic exploration, and precision treatment strategies to improve clinical outcomes.

FIGURES



Top 25 Keywords with the Strongest Citation Bursts					2001 - 2026	
Keywords	Year	Strength	Begin	End		
brg1	2004	6.17	2004	2015		
gene expression	2009	6.62	2009	2018		
complex	2005	5.45	2011	2015		
differentiation	2007	4.27	2011	2018		
somatic mutations	2012	10.07	2012	2017		
genome	2008	5.88	2012	2017		
components	2012	5.42	2012	2014		
malignant rhabdoid tumors	2013	4.75	2013	2017		
smarca4 mutations	2014	4.7	2014	2020		
rhabdoid tumor	2014	6.08	2015	2019		
phenotype	2015	4.78	2015	2018		
hypercalcemic type	2015	4.21	2015	2020		
rhabdoid tumors	2014	5.91	2016	2019		
microsatellite instability	2016	4.12	2016	2021		
snf complex	2018	4.04	2018	2022		
resistance	2020	7.73	2020	2023		
sarcoma	2019	4.15	2021	2022		
smarca4	2022	6.24	2022	2024		
case report	2016	10.74	2023	2026		
outcm	2021	4.53	2023	2026		
clinicopathological characteristics	2019	4.05	2023	2026		
efficacy	2022	9.62	2024	2026		
immune checkpoint inhibitor	2022	4.74	2024	2026		
immune checkpoint inhibitors	2024	4.59	2024	2026		
	2022	4.04	2024	2026		