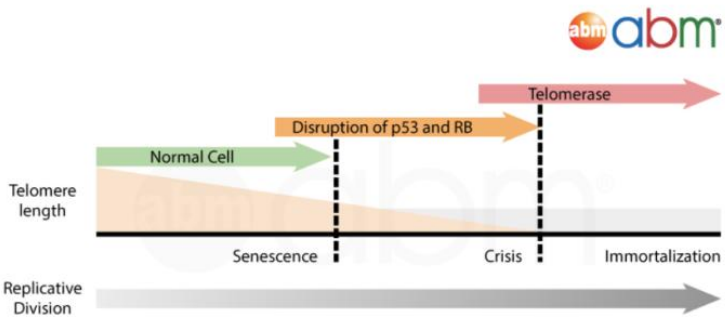
Cell Immortalization Reagents

Improved Reproducibility Beyond Primary Cells

Primary cells closely reflect native tissue biology but are limited by a finite lifespan, donor variability, slow expansion, and culture sensitivity. Immortalized cells address these challenges by enabling continuous proliferation and providing a stable, renewable cell source. By bypassing replicative senescence, they deliver improved consistency, robustness, and reproducibility across experiments. Unlike primary cells, which often lose viability or phenotype after only a few passages, immortalized cells support scalable workflows, easier handling, and long-term studies. These advantages make immortalized cells well suited for assay development, genetic manipulation, high-throughput screening, and other applications that require reliable, repeatable performance.



High-Performance Cell Immortalization Made Simple

Immortalization reagents typically function by either bypassing key cell-cycle checkpoints or maintaining telomere integrity to allow cells to divide indefinitely. Gold-standard tools like SV40 Large T antigen disable the p53 and Rb tumor suppressors while activating replication pathways, driving continuous proliferation and reliable expansion across multiple cell types. In contrast, hTERT preserves cellular identity by reactivating telomerase to prevent telomere shortening, enabling long-term division with minimal genomic disruption – ideal for physiologically relevant models. Together, these mechanisms offer high-performance immortalization with consistent, reproducible results. **abm's industry-leading immortalization reagents include a comprehensive collection of viral tools** (including SV40T and hTERT) to immortalize your own primary cells or choose from hundreds of pre-immortalized cell lines, providing researchers with unmatched quality, versatility, and reliability for long-term cell biology studies.

Immortalization Reagent	Mechanism	Available Formats
SV40T Antigen	Checkpoint inactivation	Lentivirus, Adenovirus, Retrovirus
hTERT	Telomere maintenance	Lentivirus, Adenovirus
p53, Rb siRNA	Checkpoint inactivation	siRNA Lentivirus
C-Myc T58A, RasV12	Oncogenic signaling	Lentivirus
Bmi1	Epigenetic senescence suppression	Lentivirus
CDK4	Cell cycle activation	Lentivirus
HPV E6/E7	Checkpoint inactivation	Lentivirus
EBV	Lineage-specific viral self renewal	Epstein-Barr Virus
E1A-E1B	Checkpoint inactivation	Lentivirus
HOXB8, HOXA9, HOXA10	Maintenance of progenitor identity	Lentivirus

Learn more about our Cell Immortalization Reagents at: https://www.abmgood.com/Cell-Immortalization.html

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Cell Immortalization Reagents Compatibility Chart

Cell Type	SV40T	hTERT	p53, Rb siRNA	c-Myc T58A	RasV12	Myc+Ras	Bmi1	CDK4	HPV E6/E7	EBV	E1A-E1B	HOXB8, A9, A10
Fibroblasts	✓✓	✓	✓	✓ (rodent)	✓ (rodent)	✓✓ (rodent)		✓	✓		✓	
Epithelial cells	✓✓	✓	✓	✓ (rodent)	✓ (rodent)	✓✓ (rodent)	✓	✓✓	✓✓		✓	
Endothelial cells	✓	✓	✓					✓	✓			
Astrocytes/glia	✓	✓	✓	✓ (rodent)		✓ (rodent)	✓	✓	✓			
Mesenchymal stem cells	✓	✓✓	✓				✓	✓	✓			
Neural stem/progenitor cells		✓					✓✓		✓			
Hematopoietic stem/progenitor cells							✓					✓✓
B lymphocytes										✓✓		
T cells/NK cells												
Rodent primary cells (general)	✓✓	✓	✓	✓	✓	✓✓	✓	✓	✓		✓	✓

✓ = reliable immortalization method
✓✓ = robust immortalization method

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