

Drug/Drug Family	Primary Indication	Mechanism of Action	Potential Applications for Aging
Rifampicin & Rapamycin	Tuberculosis treatment (Rifampicin), organ transplant rejection prevention, and certain cancers (Rapamycin)	Rifampicin inhibits DNA-dependent RNA synthesis by forming a stable complex with bacterial DNA-dependent RNA polymerase. Rapamycin is an mTOR inhibitor, blocking a protein used by cells to regulate growth and division.	The combination could potentially exert synergistic effects on cellular health and longevity by reducing bacterial load (Rifampicin) and slowing cellular aging processes (Rapamycin).
Acarbose & White Kidney Bean Extract	Type 2 diabetes (Acarbose), weight loss supplement (White Kidney Bean Extract)	Acarbose slows the digestion of carbohydrates in the body, which helps control blood sugar levels. White Kidney Bean Extract contains a compound that may inhibit the enzyme alpha-amylase, which is responsible for breaking down carbohydrates into sugar.	The combination could potentially have synergistic effects on glycemic control and weight management, which might impact healthspan and lifespan.
Rapamycin + Acarbose + Luteolin + Ezetimibe	Various (Cancer, diabetes, cholesterol management, and inflammation, respectively)	Rapamycin is an mTOR inhibitor, Acarbose inhibits enzymes needed to digest carbohydrates, Luteolin is a flavonoid with antioxidant and anti-inflammatory properties, and Ezetimibe reduces the amount of cholesterol absorbed by the body.	The combination could potentially impact multiple pathways involved in aging, including cell growth and metabolism, glucose regulation, lipid metabolism, and inflammation, potentially contributing to extended healthspan and lifespan.
NAC + Glycine	Various (Antioxidant support, psychiatric conditions for NAC; Protein synthesis, neurotransmission for Glycine)	NAC is a precursor to the antioxidant glutathione and may also modulate glutamate and dopamine neurotransmission. Glycine is an amino acid that serves as a building block for proteins and also acts as a neurotransmitter.	The combination could potentially impact oxidative stress and neurotransmission, potentially contributing to neuroprotection and extended healthspan and lifespan.
Rapamycin + Acarbose + NAC + Glycine	Various (Cancer, diabetes, antioxidant support, psychiatric conditions, and protein synthesis, neurotransmission, respectively)	Rapamycin is an mTOR inhibitor, Acarbose inhibits enzymes needed to digest carbohydrates, NAC is a precursor to the antioxidant glutathione and may modulate neurotransmission, and Glycine is an amino acid that serves as a building block for proteins and also acts as a neurotransmitter.	The combination could potentially impact multiple pathways involved in aging, including cell growth and metabolism, glucose regulation, oxidative stress, and neurotransmission, potentially contributing to extended healthspan and lifespan.
Rapamycin + Lithium + Trametinib	Various (Cancer, bipolar disorder, and melanoma, respectively)	Rapamycin is an mTOR inhibitor, Lithium is a mood stabilizer that may work by impacting neurotransmitter signaling, and Trametinib is a MEK inhibitor that helps in slowing the growth of cancer cells.	The combination could potentially impact multiple pathways involved in aging, including cell growth and metabolism, neurotransmission, and cellular senescence, potentially contributing to extended healthspan and lifespan.

<p>Rapamycin + Melatonin</p>	<p>Various (Cancer for Rapamycin, Sleep disorders, jet lag for Melatonin)</p>	<p>Rapamycin is an mTOR inhibitor, and Melatonin is a hormone that regulates sleep-wake cycles and has antioxidant properties.</p>	<p>The combination could potentially impact multiple pathways involved in aging, including cell growth and metabolism and sleep regulation, potentially contributing to extended healthspan and lifespan. The antioxidant properties of melatonin may also contribute to cellular health when combined with the potential anti-aging effects of rapamycin.</p>
<p>Alpelisib/Capivasertib/Rapamycin</p>	<p>Breast cancer/various solid tumors/immunosuppressant</p>	<p>PI3K/AKT/mTOR inhibitors that induce autophagy</p>	<p>Potential anti-aging effects by inhibiting the PI3K/Akt/mTOR pathway and enhancing autophagy, which removes damaged cellular components and recycles them for energy. Rapamycin has been shown to extend lifespan in animal models by enhancing autophagy, suggesting that these drugs have the potential to promote healthy aging.</p>