Khavinson Peptide Bioregulators: Independent Validation Assessment

Compiled March 2026 — assessing peer-reviewed evidence from researchers outside the St. Petersburg Institute of Bioregulation and Gerontology

Strong — independent replication outside Khavinson group

Partial — collaborative or adjacent independent work

Weak — limited, tangential, or low-quality external data

None — no meaningful independent validation found

Peptide	Sequence	Target	Validation	Key external evidence / notes
Epitalon	AEDG	Pineal / telomere	**Strong**	Al-Dulaimi et al. 2025 (Brunel Univ., UK, Biogerontology): independent cell-line study confirmed dose-dependent telomere extension via hTERT upregulation in normal cells and ALT activation in cancer cells. Polish review (MDPI IJMS 2025) summarised multi-lab evidence. Rana et al. (Aston Univ.) independently linked irisin to telomere length. Case study (Restorative Medicine, 2024) reported telomere gain. Strongest independent evidence in the whole family.
Thymalin	Polypeptide complex	Thymus / immunity	**Partial**	Khavinson-affiliated COVID-19 RCT (Advances in Gerontology 2021). Avolio et al. 2022 (Univ. Chieti-Pescara, Italy) tested Thymalin in THP-1 macrophage cells—Italian-led but Khavinson was co-author. Broader thymic peptide class has solid Western mechanistic support (ASH Blood Neoplasia 2025 review). No truly independent clinical RCT outside Russia/CIS.
Thymogen (EW)	Glu-Trp	Thymus / T-cells	**Partial**	Avolio et al. 2022 (Italian group, IJMS) included Thymogen in THP-1 macrophage study. Morozov & Khavinson 1997 ScienceDirect review reached international audience. Glu-Trp dipeptide immunostimulation is mechanistically plausible and partially corroborated, but no dedicated independent RCT.
Vilon (KE)	Lys-Glu	Thymus / chromatin	**Partial**	Avolio et al. 2022 (Italian group) included Vilon in macrophage study with positive anti-inflammatory results. Koplik et al. (Anokhin Institute, Moscow—separate institution) independently studied stress-resistance in rats (PubMed 2003). Kolchina et al. nucleic-acid structural analysis (NAR 2019, Moscow group) supports KE-DNA binding.
Chonluten (EDG)	Glu-Asp-Gly	Bronchial / lung	**Partial**	Avolio et al. 2022 (Italian group, IJMS): Chonluten specifically inhibited TNF production in LPS-stimulated monocytes—notable external confirmation of anti-inflammatory mechanism. No independent in vivo or clinical studies outside Russian/CIS literature.
Cortexin	Polypeptide complex	Cerebral cortex / neuroprotection	**Partial**	Yakovlev & Gulyaeva (IHNAP RAS, Moscow—separate institution) independently characterised caspase-8 inhibition (PubMed 2017). International systematic review (ScienceDirect 2021) included 1 Cortexin RCT; evidence rated low-very low quality. 2025 animal study (MDPI Biomedicines) from non-Khavinson team. Registered drug in Russia; no high-quality Western RCT.
Retinalamin	Polypeptide complex	Retina	**Weak**	Russian ophthalmology clinical studies (PubMed 2024) show use in diabetic retinopathy with OCT monitoring, but all are Russian-institutional. No external independent replication. International recognition is absent.
Pinealon (EDR)	Glu-Asp-Arg	Brain / neuroprotection	**Weak**	Yakovlev (IHNAP) noted EDR neuroprotective activity. All major studies from Khavinson group. The irisin/telomere mechanism is entirely unvalidated externally. EDR's histone H1.3 binding is theoretically grounded but not replicated outside St. Petersburg Institute.

Peptide	Sequence	Target	Validation	Key external evidence / notes
Vesugen (KED)	`Lys-Glu-Asp`	Blood vessels / endothelium	**Weak**	KED tripeptide improved memory/attention in elderly in a small Khavinson-group clinical study. Vascular mechanism via H1.3 histone binding is theoretically plausible. No independent external RCT or replication. Evidence base entirely from St. Petersburg Institute.
Crystagen (EDP)	`Glu-Asp-Pro`	Immune system / thymic epithelium	**Weak**	Identified as active component of Thymalin. EDP was not independently tested in the Avolio 2022 study. Activity in thymic epithelial cell lines documented only by Khavinson's group. Mechanistic overlap with other immune peptides makes it plausible but unvalidated externally.
Cartalax (AED)	`Ala-Glu-Asp`	Cartilage / chondrocytes	**None**	All published studies are from St. Petersburg Institute or Russian orthopaedic collaborators. No independent external lab has published on Cartalax. Evidence consists entirely of Khavinson-affiliated clinical observations and in vitro work.
Ovagen	`Polypeptide complex`	Liver / GI tract	**None**	No independent external publications found. Liver peptide bioregulator with marketed hepatoprotection claims. All evidence from St. Petersburg Institute clinical observations. No PubMed-indexed independent study.
Pancragen	`Polypeptide complex`	Pancreas	**None**	No independent external publications found. Pancreatic peptide bioregulator. All evidence from Khavinson group. No replications in endocrinology or diabetology literature outside Russia/CIS.
Testagen	`Polypeptide complex`	Testes / testosterone	**None**	No independent external publications found. All evidence from Khavinson-affiliated sources. No peer-reviewed external validation in andrology or endocrinology literature.
Livagen	`Polypeptide complex`	Liver / lymphoid tissue	**None**	No independent external publications found. Liver/lymphoid bioregulator. All evidence from St. Petersburg Institute. No PubMed-indexed external study.