



Royalty Rates: Recent Data & Deal Economics

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This month's article will provide an overview on royalty rate benchmarks across development stage, modality, and therapeutic area (building on the piece on [deal terms](#) by Linda 2 months ago).

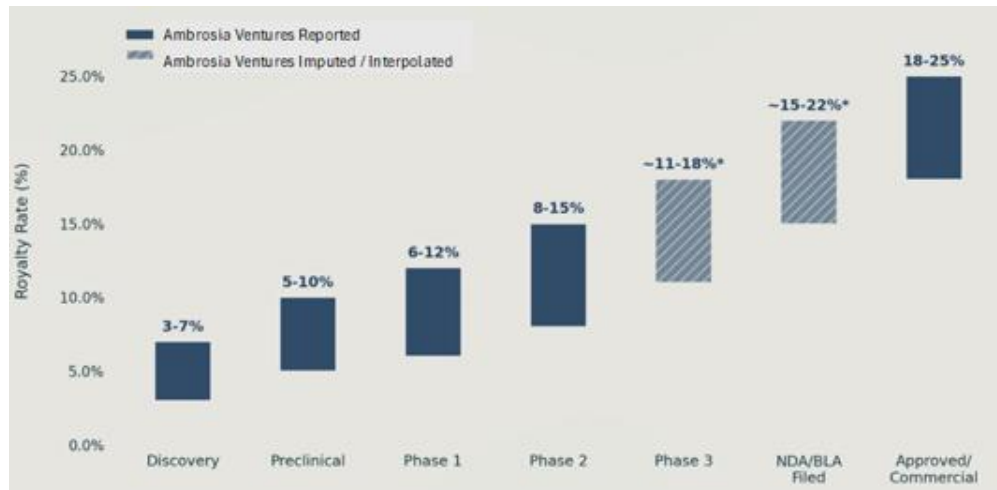
In contrast to attention-grabbing deal values in press releases, which often declare multi-million-dollar milestone bio-bucks, royalties are often given short shrift with only general terms and press releases rarely include specific percentages. Yet over a ten-to-fifteen-year commercial life, a 2- or 3-point swing in royalty rate may be worth far more to a licensor than the entire upfront payment.

Royalty Rates Rise Substantially With Clinical Progress

Not surprisingly, the single strongest predictor of higher relative royalty rates is not modality or therapeutic area, but rather how far the asset has advanced - stage of development. Clinical de-risking is the dominant driver for higher royalty rates. Industry sources and benchmarks align on the direction of travel upwards with advancing development stage, however absolute royalty numbers and tiers may vary meaningfully between distinct analytic sets, which highlights the importance of understanding methodology in how royalty rate ranges and values are derived.

The [Ambrosia Ventures' research team](#) has published a comprehensive analysis of royalty rates, based on 1,600+ executed deals, spanning 7 deal phases and 8 different modalities. The depth and breadth of deal reference set strengthens confidence in the Ambrosia royalty numbers. A limitation worth noting however is that a minor subset of benchmark data is redacted from the open access publication. Missing data has therefore been imputed based on Ambrosia's own qualitative description and cross-checking with independent sources such as [Venture Valuation's Q2 2026 analysis using Biotech Gate database](#) as well as proprietary sources such as AlphaSense.

The bar chart below displays royalty rates by stage. The solid navy-blue bars are directly reported royalty ranges while the grey hash bars are derived ranges based on Ambrosia's qualitative reporting. Discovery-stage royalties fall in the ~ 3–7% range, preclinical rates range from 5 – 10%, 6–12% for Phase 1 and 8–15% for assets in Phase 2. Phase 3 royalties are imputed as ~ 11 – 18%, and assets in regulatory filing phase (NDA or BLA) as ~ 15 – 22%. Approved therapeutics may secure royalty rates in the range of 18 – 25%, particularly in the context of territory-specific licensing deals involving ex-US rights. Diverging from this upward trend in royalty rates however, some approved-asset licensing deals may report royalties in the ~ 6 – 12% range, if there has been a significant shift in the overall deal structure, such that upfront payment is substantially greater than that seen with regional deals (order of magnitude greater) and revenue potential reaches blockbuster thresholds.



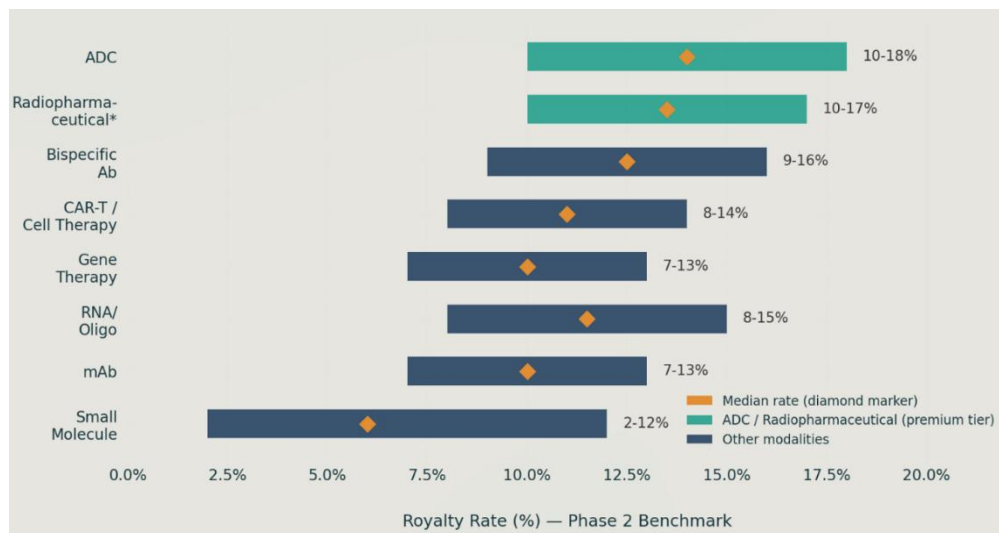
Separately from the above dataset, looking at recent transactions provides an important reminder of how individual deals can skew median reported ranges if the total reference set is small.

The Protagonist – Takeda collaboration featured an “opt-out” right for Protagonist, pertaining to its 50:50 profit and loss sharing arrangement for the US market. By exercising its opt-out right in April, 2026, Protagonist’s profit-sharing rights were converted into [worldwide tiered royalties ranging from 14 – 29%, corresponding to a weighted average of ~ 21%](#) at \$1.5 billion in sales. The top tier royalty of 29% applies to annual net sales above \$1.5 billion.

The takeaway for licensors: don't anchor on a single published range or a single reference case. Cross-check multiple sources and recognize that Phase 3 in particular shows a wide dispersion because deal structure (co-development/co-commercialization opt-outs vs. straight licenses) will significantly influence royalty rate trajectory as much as clinical stage itself.

Modality Provides A Clear Royalty Range Before Negotiation Even Starts

Using a Phase 2-normalized modality comparison ranks **ADCs** at the top of the royalty hierarchy, with a 10–18% range and 14% median, followed closely by radiopharmaceuticals with a 13.5% median. All benchmark sources used for this article agree that ADCs sit at the premium end of royalty rate ranges. For example, [LigaChem's extensive partnering and licensing deal history](#) suggests a blended running royalty of ~ 13%+ across its own transaction performance. It is reasonable to conclude that ADC royalty premiums are a consistent market benchmark, rather than market noise.



Looking at the shape of the chart, we can see that each modality sits inside a similar ~6-to-8-point band, but the floor on small molecule royalty rates is the outlier base rate set. ADCs and radiopharmaceuticals both bottom out at 10%, while small molecule's floor drops all the way to 2%. That 'floor rate compression' in the top categories and spread of low-end rates at the bottom for small molecules is the compelling point: modality mostly determines how low a licensee can push you, not how high you can go. A best-in-class small molecule can still reach 12%, brushing up against ADC's range,

but a weak or undifferentiated fast-follower small molecule is likely to be pushed down to ~2%. By contrast, a 'me-too' ADC candidate is protected by the modality's structural royalty floor and rarely prices below 10% regardless of competitive position.

The royalty floor for ADCs comes from manufacturing economics and ability to scale, in addition to positive clinical data. [The ADC premium \(10–18% royalty range, 14% median\) is largely attributed to the complexity of linker-payload chemistry and difficulty of manufacturing at scale](#) - barriers that exist independent of how differentiated the clinical profile may be.

Radiopharmaceuticals are almost overlapping ADCs (10–17%, 13.5% median) for a related but distinct reason: severe supply constraints on isotope production create a scarcity premium completely independent of trial data. In both cases, the licensee is effectively paying a manufacturing-risk premium on top of the clinical-risk premium every other modality carries. To this end, ADCs and Radiopharmaceuticals were displayed in green bars on the chart, for added visual distinction of those modalities.

Categories of bispecific antibodies (9–16%), CAR-T (8–14%), RNA/oligonucleotide (8–15%), and gene therapy (7–13%) shown significant overlap, which means modality alone stops being a reliable predictor of royalty premium, if the asset sits outside the ADC/radiopharmaceutical tier.

Ambrosia Ventures' data backs this up directly: modality explains only ~ 35% of royalty variance at a given phase, while mechanism-of-action novelty explains another 25% and the remaining 40% comes down to therapeutic area and negotiation leverage. In practice, this suggests a first-in-class gene therapy in a hot indication can out-price a fast-follower CAR-T asset even though the chart shows gene therapy sitting

slightly lower on average. Importantly, the median diamond marks on the chart are starting points for negotiation and discussion - not a ceiling.

Gene therapy's position at the bottom of the "premium modality" cluster is worth noting, as it seems to run against the popular narrative that gene therapy is the most valuable modality in biopharma. Current industry dynamics and persistent challenges can provide some explanation here: a high degree of manufacturing cost uncertainty, small/rare patient populations in most indications, as well as reimbursement friction that persists even after approval, all suppress what a licensee is willing to commit to on a running-royalty basis. A separate review of 2025–2026 transaction data lands in a similar band for cell and gene therapies (high-single digit to low-double-digit), corroborating this royalty range for the categories. The take-away for a licensor progressing a gene therapy asset: an innovator shouldn't necessarily assume the platform's scientific novelty translates directly into royalty leverage, the way it might for an ADC. A gene therapy developer may need to strengthen their case based on therapeutic area premium (genetic validation, rare disease diagnosis) than on modality alone.

The small molecule royalty range band (2–12%) is the widest band on the chart, which may not be surprising given that it is, by far, the most heterogeneous category, spanning everything from a me-too compound with no differentiation to a genetically validated, first-in-class oral therapy competing directly with injectable biologics.

A recent example of small molecule deal approaching the upper end of the range involves Protagonist's transaction with JNJ. Protagonist's oral IL-23R peptide ICOTYDE, positioned as a first-in-class oral alternative to injectable biologics in psoriasis, earned a 6–10% global royalty from Johnson & Johnson, owing, at least in part, to its delivery

and convenience in a crowded IV psoriasis market. ICOTYDE is technically a peptide, falling into the oral, small molecule category.

For those tracking RNA therapeutics specifically, the Alnylam/Roche CNS collaboration is worth reviewing. Alnylam retained "tiered low-double-digit royalties" (interpreted as roughly 10–14%) in exchange for a comparatively modest \$310 million upfront, betting that its validated RNAi platform and Alzheimer's opportunity would outperform a larger upfront over the product's commercial life.

Tiered Structures Are Now the Norm, Not the Exception

Flat royalty rates are increasingly rare. Tiered escalation clauses, where the royalty rate steps up as annual net sales cross defined thresholds, now appears in more than 70% of licensing deals. A representative royalty deal structure for a Phase 2 oncology asset might start at 10% on sales up to \$1 billion, step to 12% between \$1 billion and \$3 billion, and reach 15% above \$3 billion. (Note: It is important to remember the bottom tier applies every year on the first chunk of net sales in that year up to the threshold, so a royalty range of 6-10% that starts at 6% and increases after \$250M in annual net sales will have a substantially different payout than one that as 6% up to \$1B.)

Returning to the Protagonist-JNJ deal for ICOTYDE, this deal structure shows how a lower-royalty, higher-certainty transaction may appear. While the royalty range is 6% to 10%, the top tier is only reached above \$4.0 billion in net sales, with a 7.25% weighted average on the first \$4 billion.

Step-down provisions are now standard on the other side of the ledger. Multiple deal reference sources describe 40–60% royalty

reductions triggered by patent expiration or biosimilar/generic entry, typically bounded by a contractual cumulative royalty floor that protects the licensor from being reduced to near-zero.

The Real-Money Trade-Off: Upfront Cash vs. Royalty Tail

Guidance worth noting pertains to the NPV trade-off: a **1%-point** royalty increase is worth roughly **\$30–80 million in NPV** (depending on time to launch and peak sales) on a drug with \$2 billion peak sales potential, while an equivalent NPV adjustment on the **upfront side runs \$50–100 million** – indicating that upfront dollars and royalty points are not a one-to-one trade. Further, a **2%-point** royalty premium on a \$3 billion peak-sales drug is worth **\$400–600 million** additional dollars, over the product's commercial life. This is typically well in excess of the value that could be negotiated for most milestone increases. And adjusting for risk makes today's value of upfront very hard to match in expected NPV value of royalties for an early stage deal.

Therapeutic Area and Macro Overlay

Beyond phase and modality, therapeutic area continues to command its own royalty premium. Oncology and immunology/inflammation land at the top of the therapeutic-area tier (10–20%+). However, Neurology/CNS and rare metabolic disease (including MASH) also earn premium royalty tiers, reflecting both large addressable markets and genetically validated targets.

It's also worth flagging the macro-overlay reshaping the royalty landscape further. The Inflation Reduction Act Medicare price negotiations (yielding discounts of 38–79% on select Part D drugs) are now showing up directly in licensing contract language, whereby

carefully constructed clauses may proportionally reduce royalty payments if a licensed product becomes subject to a negotiated Maximum Fair Price. Anyone modeling long-dated royalty streams on a U.S.-focused asset should be underwriting this risk explicitly.

Bottom Line & Key Takeaways

Royalty rates should never be evaluated or negotiated in isolation from the rest of the deal structure. Development stage sets the royalty floor, modality and therapeutic area calibrate the numbers, and tiered structures determine how much of the eventual blockbuster upside a licensor captures, via royalties. Macro forces like IRA pricing reform are variables also worth factoring into detailed royalty projections.