Adopting OGA Validation Tools in Funding Schemes

A practical guide for research funders implementing the Delphi consensus recommendations on antibody validation in grant processes.

The recommendations

Six funder-facing recommendations achieved consensus as both effective and feasible:

- **R10:** Require antibody validation plans in grant applications.
- **R11:** Dedicated budget line for antibody validation in funded projects.
- **R12:** Create or expand targeted tool development and validation schemes.
- **R13:** Signal the importance of antibody validation in applicant guidance.
- **R14:** Encourage deposition of validation data in open-access repositories.
- **R15:** Formally endorse community-developed reporting standards.

The Delphi panel recommended a staged approach. This guide structures implementation around four stages that align with the grant lifecycle, beginning with the lightest-touch interventions and building towards comprehensive oversight as institutional capacity develops.

Staged implementation

Stage 1: Signal importance (R13)

Add language to applicant guidance signalling that antibody validation is expected in antibody-dependent research. This costs nothing to implement and primes applicants to think about validation before they write.

Suggested applicant guidance language:

> *Applicants proposing antibody-dependent experiments should demonstrate awareness of antibody validation requirements. This includes checking whether independent characterisation data exists for proposed antibodies (e.g. via the OGA Antibody Database or YCharOS reports), planning appropriate controls, and budgeting for validation materials. Free training is available through the OGA Academy (onlygoodantibodies.co.uk/academy).*

Stage 2: At application — budget awareness and preliminary evidence (R11, R13)

At the grant application stage, most researchers have not finalised their antibody inventory and cannot provide the antibody-level detail that a full validation plan requires. What they can do is demonstrate two things: that they have budgeted appropriately for validation controls, and that any antibody-derived data in their preliminary results has been generated responsibly.

2a. Budgeting for validation controls

Direct applicants to the OGA Validation Budgeting Guide (see below), which provides indicative costs and timelines for common validation controls. Include a budget line expectation in your application form or guidance:

> *If your project involves the use of antibodies, include a line in your budget for antibody validation materials. Typical costs include knockout or knockdown controls, positive control reagents, and researcher time. See the OGA Validation Budgeting Guide (onlygoodantibodies.co.uk/tools/budgeting-guide) for indicative costs. For projects where key experimental conclusions will depend on antibody-derived data, we recommend*

using the OGA Validation Planner (onlygoodantibodies.co.uk/tools/validation-planner) to develop a detailed validation strategy.

2b. Evaluating preliminary antibody data

Where applicants present preliminary data generated using antibodies, ask them to document what validation was performed using the OGA Validation Recorder. This captures the antibody identity, controls used, and observations for each antibody in the preliminary dataset. It gives reviewers a structured way to assess whether preliminary antibody data is trustworthy, without requiring a prospective plan for antibodies the applicant has not yet selected.

Where your application includes preliminary data generated using antibodies, provide a completed OGA Validation Record (onlygoodantibodies.co.uk/tools/validation-recorder) or equivalent structured summary for each antibody used. This should document: the antibody identity (including RRID where available), the controls performed, and the results of those controls.

Stage 3: During funded projects — institutional oversight (R10, R19, R20)

Once funded, the detailed work of validation planning belongs within the project, overseen by the host institution. Funders can require that institutions provide validation oversight infrastructure as a condition of funding. This shifts the burden from grant applicants filling in speculative plans to institutions ensuring researchers have access to training, supervision, and structured tools.

The host institution is expected to provide antibody validation support for funded researchers, including access to training (e.g. OGA Academy), structured validation planning tools (e.g. OGA Validation Planner), and supervisory oversight of validation strategy for antibody-dependent experiments.

The OGA Validation Planner is designed for this stage: researchers work through it with their supervisor once they have selected their antibodies and designed their experiments. It captures the experimental question each antibody addresses, existing characterisation evidence, a proportionate control strategy, full antibody identity, and a validation budget. The output is a structured PDF that can be retained as part of the institutional record and shared with funders on request.

Stage 4: At publication — transparency reporting (R14, R15)

At the end of a funded project, require grantees to include structured validation reporting with their publications. The OGA Validation Recorder captures what was done and what was observed for each antibody, producing a PDF suitable for supplementary materials. This closes the loop: the same tool used to evaluate preliminary data at application (Stage 2b) is used to report final validation outcomes at publication.

Funders can endorse the IWGAV framework and MDAR checklist as community reporting standards (R15). For open data sharing (R14), the Recorder output can be included as supplementary material alongside publications. A pathway for depositing underlying validation data with DOIs via Biomed Resource Watch, linked to antibody RRIDs, is under development with SciCrunch.

Validation budgeting guide

The following costs and timelines are indicative and should be verified at the time of application. Prices are approximate UK costs in 2026 and will vary by supplier, target, and institutional agreements.

Indicative costs by control type

Control type	Cost range	Timeline	Notes
Knockout cell line (catalogue)	£1,500–£2,500	1–2 weeks delivery	Verify KO independently
Knockout cell line (custom)	£800–£3,000+	4–10 weeks	Any parental line; pool or clone
siRNA reagents (per target)	£200–£400	1–2 weeks delivery	Add ~£200–400 for transfection reagents and RT-qPCR
Overexpression lysate	£100–£400	~1 week delivery	20–100 µg; sufficient for multiple blots
Plasmid/construct for transfection	£100–£500	1–2 weeks	cDNA clones from repositories or commercial
Additional antibody for comparison	£150–£400	~1 week delivery	Independent clone targeting same protein
Researcher time (per target)	Variable	2–8 weeks	Depends on experience and troubleshooting

Typical total per target: £500–£3,500 depending on control strategy. A project using 3–5 target-specific antibodies should budget £1,500–£10,000 for validation materials.

Providers

Knockout cell lines

Provider	Product	Format	Notes
Horizon Discovery (Revvity)	HAP1 knockout cell lines	Catalogue (7,500+ lines)	Gold standard for antibody validation; haploid background ensures clean KO
EditCo	XDel custom knockouts	Custom pools (4 wks) or clones (10 wks)	Any immortalised cell line; automated high-efficiency CRISPR
Abcam	Knockout cell lysate pairs	Ready-to-use lysates	Limited target range; no live cells
OGA (Only Good Antibodies)	KO characterisation service	Characterisation data	Full characterisation of your KO cell line; email onlygoodantibodies@gmail.com
In-house CRISPR	Variable	Custom	Lowest reagent cost but significant researcher time (weeks–months)

Knockdown reagents (siRNA)

Provider	Product	Format	Notes
Dharmacon (Revvity)	ON-TARGETplus SMARTpool	4 pooled siRNAs per target	Guaranteed 75% knockdown; gold standard
Thermo Fisher	Silencer Select siRNA	Pre-designed per target	Good efficiency; wide species coverage
Dharmacon (Revvity)	Accell self-delivering siRNA	No transfection needed	For difficult-to-transfect cell types; higher cost

Positive controls

Provider	Product	Format	Notes
OriGene	Overexpression lysates	20 µg (£115) or 100 µg (£370)	Tagged; useful for initial antibody screening by WB
Addgene	cDNA expression constructs	Plasmid (minimal cost)	Academic repository; check for your target
OriGene	TrueORF cDNA clones	£200–£500	Tagged expression-ready constructs

Note: all costs are approximate and should be verified with suppliers. Institutional purchasing agreements may reduce costs significantly.

Quality assurance through institutional oversight

In this model, the funder's role is to require that institutional oversight infrastructure exists, not to evaluate the technical content of individual validation plans. The quality of validation planning is supported through three mechanisms:

- **Training:** The OGA Academy provides free, structured training in antibody validation principles. Institutional training programmes and doctoral training partnerships can embed this as part of their researcher development.
- **Structured tools:** The OGA Validation Planner guides researchers through proportionate validation decisions at the antibody level, preventing generic or superficial responses.
- **Supervision:** Institutional integrity frameworks and supervisory relationships ensure that validation plans are reviewed by experienced researchers before experiments begin.

By requiring institutional oversight rather than completed plans at the point of application, funders avoid placing an unrealistic burden on applicants who have not yet finalised their antibody selection, while still ensuring that validation is planned and executed rigorously during the funded project.

The broader picture

These tools are part of a coordinated strategy endorsed by the Delphi panel (R22). As funders signal the importance of validation and require budget awareness, researchers seek training from institutions. As funders endorse reporting standards, publishers can align their requirements. As funders require institutional oversight, institutions invest in training infrastructure. The OGA Academy, Champions scheme, and database provide the supporting infrastructure that makes compliance practical rather than burdensome.

The Validation Recorder serves a dual role across this lifecycle: at application it documents what is already known about antibodies used in preliminary data; at publication it provides a structured transparency record. This creates a consistent reporting language from application to publication.

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Based on: Blades, Biddle, Froud, Krockow & Virk (2026). Addressing antibody validation failures: a multi-stakeholder Delphi consensus study.