NIH Career Development (K) Awards provide support for research careers

• ~2.4% NIH budget: ~$705 million (FY10)
• ~4,335 awards (FY10)
• currently 14 different types (K01-K99)
  • for clinicians & basic scientists
  • for junior & senior faculty
• Mentored K awards designed for postdocs & junior faculty
  → K01, K08, K23, K99/R00

The Goal of Mentored K Awards

To provide support and “protected time” (3-5 years) for an intensive, supervised career development experience in the biomedical, behavioral, or clinical sciences leading to research independence.

A dedicated mentor is essential for
• successful application
• successful outcome

NIH provides funding for career development at different stages

student → post doc → junior faculty → senior faculty

F30 → F31 → career development awards

K Awards

R01
NIH Career Development Award Workshop

Know Your K
Joan M. Lakoski, PhD • Robert J. Milner, PhD

NIH provides funding for career development at different stages

- post doc
- resident
- junior faculty
- independent investigator

K08 Mentored Clinical Scientist Award
K23 Mentored Patient-Oriented Research
K01 Mentored Research Scientist Award
K22 Career Transition Award
K99/R00 Pathway to Independence Award

K01: Mentored Research Scientist Award

- career development in a new area of research
  - for candidates with potential for productive independent research
  - mentor with extensive research experience
  - 75% effort over 3-5 years
  - differences among Institutes: NCI no longer participates

K08: Mentored Clinical Scientist Award

- to develop clinician research scientists as independent investigators
  - Requires:
    - clinical doctoral degree
    - must have initiated postgraduate training
    - mentor with extensive research experience
    - 75% effort over 3-5 years

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K23: Mentored Patient-Oriented Research Career Development Award
— to develop investigators committed to patient-oriented research

Requires:
• clinical or nursing doctoral degree
• completion of all clinical training
• mentor with extensive research experience
• 75% effort over 3-5 years

K22: Career Transition Award
— support for postdoctoral fellows in transition to faculty positions

• for candidates with potential for productive independent research
• differences among Institutes: may involve training in intramural NIH programs

K99/R00: Pathway to Independence Award
— to facilitate independent funding earlier in an investigator’s career

• for highly promising postdoctoral scientists
• established in response to increasing age of first independent support
• non-citizens are eligible
K awards have high success rates

<table>
<thead>
<tr>
<th>Award</th>
<th>Success Rate 2009 (%)</th>
<th># awards 2009</th>
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<tbody>
<tr>
<td>K01</td>
<td>144</td>
<td></td>
</tr>
<tr>
<td>K08</td>
<td>221</td>
<td></td>
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<tr>
<td>K22</td>
<td>29</td>
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<tr>
<td>K23</td>
<td>227</td>
<td></td>
</tr>
<tr>
<td>K99</td>
<td>204</td>
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</table>

R01 Success Rate 2009 = 17.8%

Data from: http://report.nih.gov/FileLink.aspx?id=551

Common features of K Awards

Eligibility:
- doctoral degree
- US Citizen, non-citizen national, or permanent resident (except K99/R00)
- not eligible if previous PI on R or K grants

Duration: 3–5 years

Effort: minimum 75%

Other individual K Awards

- K02 Independent Scientist Award
- K05 Senior Scientist Research & Mentorship
- K07 Academic Career Award
- K18 Career Development Award in the Environmental Health Sciences / Career Enhancement Award for Stem Cell Research
- K24 Midcareer Investigator Award in Patient-Oriented Research
- K25 Mentored Quantitative Research Development Award
- K26 Midcareer Investigator Award in Mouse Pathobiology Research
For more information on K awards see the NIH website — “K Kiosk”

http://grants.nih.gov/training/careerdevelopmentawards.htm

Contact the appropriate Program Officer!

Information on K Awards by NIH Institute

Spreadsheet: Comparison of K awards across Institutes & Centers

Handout: funding of awards by each Institute

http://grants.nih.gov/training/K-Awards_Across_ICs.xls

There are three deadlines per year for submission of K Awards

<table>
<thead>
<tr>
<th>Receipt</th>
<th>Review</th>
<th>Council</th>
<th>Start</th>
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<tbody>
<tr>
<td>Feb 12</td>
<td>June-July</td>
<td>Sept-Oct</td>
<td>December</td>
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<tr>
<td>June 12</td>
<td>Oct-Nov</td>
<td>Jan-Feb</td>
<td>April</td>
</tr>
<tr>
<td>Oct 12</td>
<td>Jan-Feb</td>
<td>May-June</td>
<td>July</td>
</tr>
</tbody>
</table>

• applications must be received electronically on or before the receipt date
• applications are submitted by institutional officials
• your Grants Office may have a much earlier submission deadline

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K Awards are reviewed by 5 criteria

- Candidate
- Career development plan
- Research strategy
- Mentor
- Environment & Institutional commitment

*Remember the criteria as you write your proposal!*

Before applying you must obtain & be familiar with 3 sources of information

- SF424 (R&R) Application Guide
- Program Announcement (PA) for your Award (e.g., F32, K08)
- Application Form for your Award (e.g., F32, K08)

Read the Program Announcement (PA) — link to application package

[PA-10-059 (K08 award)](link_to_application_package)

Apply for Grant Electronically

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Program Announcements for K awards
(see K Kiosk *)

K01: Mentored Research Scientist Development Award
PA-10-056

K08: Mentored Clinical Scientist Research Career Development Award
PA-10-059

K22: see individual institutes on K Kiosk*

K23: Mentored Patient-Oriented Research Career Development Award
PA-10-060

* http://grants.nih.gov/training/careerdevelopmentawards.htm

Each application package is for a specific Award

• Application package is a pdf document

[Image of application package]

PA-10-059 (K08 award)

Make sure you have the correct application package!

NIH will update forms before next submission deadline

[Image of ADOBE FORMS B1]

Make sure you have the right forms!
Application for a K award should be a collaboration between you & your advisor

You (the “applicant”) are Principal Investigator
- you are responsible for submitting the application
- you write the research training plan in collaboration with your sponsor

Your advisor/mentor is the Sponsor
- she/he must write sections of the application

You must involve your advisor/mentor early & often in crafting the application!

There are additional components & instructions for K Awards

Career Development Supplemental Form:

Instructions:
Part I, Section 7 — preparation of a K award proposal

Complete the Cover Component according to standard instructions

• Consult with your grants office for help in completing the forms

Title: limited to 81 characters & spaces
You sign the application by checking “I agree” (Page 2)

- remember that in submitting the application, you certify that the contents are “true, complete, and accurate”

Other Project Information Form

1. Human Subjects
2. Vertebrate Animals
7. Abstract
   - attach as pdf file
   - no more than 30 lines
   - for K awards, the abstract should include a description of your research project, plus your career goals & training plan

Other Project Information Form

9. Bibliography
   - for whole proposal
   - attach as pdf file
10. Facilities & Other Resources
11. Equipment
   - detailed description of resources and equipment available to candidate
   - establishes feasibility of proposal
List your referees in the “Other Attachments” section

- List of Referees:
  - at least 3, not including your sponsor
  - you must include the name of the referee, departmental affiliation, and institution
  - same list must be included in the Cover Letter Component

Attach your Biosketch:
the format of the biosketch has changed!

Five sections:
- education
  A. Personal statement
  — why are you best suited for this project
  B. Positions & honors
  C. Selected publications
  — limit of 15
  — with NIH Manuscript Submission ref #
  D. Research Support

Attach Biosketch & Research Support for Mentor, Co-Mentor, & Key Persons

Research Support
- list current & pending projects
- include major goals, direct costs
- only required for mentored awards
Budget: allowable costs may differ by award type & institute

- consult your grants office &/or Program Officer
- modular budgets not used for K awards
- only a few budget categories used

The application also includes “PHS398 Components”

- Cover Letter Component
  - required for mentored K awards
  - must include list of references
- Cover Page Component
- Checklist
  - follow general instructions
- Career Development Supplemental Form

Watch for changes in forms!

The Career Development Supplemental Form contains the proposal itself

Important sections:
- Introduction (if applicable)
- Candidate Information
- Statements of Support
- Environment and Institutional Commitment
- Research Plan
- Human Subjects, etc

Each component is attached as a separate pdf
Key sections have a page limit: *this limit has been reduced!*

- Candidate Information (items 2–5)
- Research Strategy (item 11)

= 25 12 pages total

+ 1 page for Specific Aims

**Tip:** write the Candidate Information & Research Strategy as a single document

- better able to assess fit to 12 page limit
- then separate into sections for uploading as pdfs
- NIH will not count white space generated as part of page limits

2. Candidate’s Background
3. Career Goals
4. Career Development
5. RCR Training
11. Research Strategy

The supplemental sections correspond to the review criteria for K Awards

- Candidate
- Career development plan
- Research strategy
- Mentor
- Environment & Institutional commitment

*Remember the criteria as you write your proposal!*

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Candidate’s Background (item 2)
• describe any relevant information about you that is not included in your Biosketch
• e.g., research, clinical training experience
• be succinct: this section is included in the 12-page limit!

Describe your “Scientific Biography” in Career Goals & Objectives (item 3)
• justify the proposal by describing how it fits into your career development
  past history  this proposal  future career
• describe previous scientific history
• how the award will enable you to enhance your career objectives
• include reasons for any changes in career direction

Mentored K Award applications require letters of reference
• required for K01, K08, K22, K23 & K99/R00 applications
• 3–5 letters from individuals other than those involved in the application
  • i.e., not sponsor/mentor or collaborators
  • should address candidate’s competence & potential as an independent investigator
List your referees in the “Other Attachments” section

Item #12 in Research & Other Project Information

List of Referees:
• at least 3, not including your sponsor
• you must include the name of the referee, departmental affiliation, and institution
• same list must be included in the Cover Letter Component

Reference letters are submitted through the eRA Commons

Instructions for referees:
http://grants.nih.gov/grants/funding/424
Referee_Instructions_Mentored_Career_Awards.doc
• complete & send instruction form to each referee
• letters must be submitted within 5 days of application submission date

Tips for Best Reference Letters
• develop effective working relationships with potential referees
• keep your referees updated on your progress
• make your referees’ job easy, provide:
  – current CV, reprints
  – draft of proposal

Remember: this is a personal & professional relationship that may last your entire career
“Applicants must include a cover letter”

- list Referees (including contact information)
- can request assignment to a specific Institute and/or review panel:

<table>
<thead>
<tr>
<th>Application Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Please assign this application to the following:</td>
</tr>
<tr>
<td>Institute/Center:</td>
</tr>
<tr>
<td>National Cancer Institute (NCI)</td>
</tr>
<tr>
<td>Scientific Review Group:</td>
</tr>
<tr>
<td>Cancer Etiology Study Section (CE)</td>
</tr>
</tbody>
</table>

Describe what you will learn in the Career Development Plan (item 4)

- describe new skills & knowledge
  - provide details of courses & workshops
- define distribution of effort for activities (use timeline)
- relate activities to career development & research plans

Proposing to do what you already know will be viewed as having no training potential!

Items that you must include in a Career Development Plan

Describe your goals:

- what you hope to achieve . . .
- describe specific activities designed to achieve each goal
- include a specific aspect of advanced research training and professional skills (e.g. training in grant writing)
- describe how your institutional environment will enhance your success in achieving your goals
Your mentor(s) must describe detailed plans for mentoring

- the specific expertise of your mentors and how their guidance will help you to achieve your goals
- the specifics of mentoring, including frequency of meetings (e.g., weekly)
- consider adding an Advisory Committee to monitor your progress every 6 months

Include a Timeline for your Career Goals & Objectives

List:
- your distribution of effort
- specific objectives for each year
- plans for subsequent grant support

Research Plan should “develop skills needed by a researcher”

- should be hypothesis-driven
- not overly ambitious or routine

The format of the Research Plan has changed:
- Specific Aims (1 page)
- Research Strategy:
  a) Significance
  b) Innovation
  c) Approach

Experimental details should be cited using references & not described in detail!
The Mentor must have a strong record of research and mentoring

- Your mentor should meet these qualifications (& document them adequately!)
- If not, provide a plan to correct any deficiencies:
  - co-mentor(s)
  - mentoring advisory team

Statements by Mentor must also explain how award will develop candidate’s career

Should include:
- plans for candidate’s career development
- source(s) of support for research project
- supervision & mentoring of candidate
- candidate’s teaching load (if any)
- plan for transition of candidate to an independent investigator

A strong statement of Institutional Commitment is essential (item 9)

- on institutional letterhead
- commitment to candidate independent of award
- agreement to provide protected time for candidate’s research & career development
- equipment, lab space, office, facilities, resources

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You must include plans for instruction in Responsible Conduct in Research

- describe in Item 5
- follow new NIH guidelines for RCR instruction

"Applications lacking a plan for instruction in responsible conduct of research will be considered incomplete and may be delayed in the review process or not reviewed."

Write to the review criteria
- Candidate
- Career development plan
- Research plan
- Mentor
- Environment & Institutional Commitment
- RCR Instruction

A strong response for each criterion!

Plan ahead for resubmission!

18 months

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