

Larotrectinib (Vitrakvi) for NTRK+ solid tumours

Name	Name of the Drug and Indication(s):			Larotrectinib/NTRK fusion			
Eligib	Eligible Stakeholder Role in Review (Sponsor		Registered Clinicia	n Feedba	ck		
and/o	r Manu	ıfacturer, Patier	nt Group, Clinical				
Organ	ization	Providing Feed	back	Cancer Care Ontar	io		
				if comments require o			
inform	ation v	vill not be inclu	ded in any public	posting of this docum	ent by th	ne pCODR program.	•
3.1	Comm	ents on the Initi	ial Recommendat	cion			
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				results from the trial an , however, wishes it co			ıl
				ese types of medication based on cost effective			
	sourc	e. As clinicians,	the DAC would be	e interested in accessin	g the drug	g if a patient carried	
	DAC 1	feels there are m		her treatment options. Igs which we would pre			trie
	cance	er patients.					
	b) Di	oaso indicato if	the eligible stake	eholder agrees, agrees	in part	or disagroos with t	ho
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				that are included in t nd will be redacted fro			he
	Subs	tantive commen	ts on the provision	onal algorithm will pro			he
	initio	ai recommendat	ion to a final rec	ommendation.			

c) Please provide editorial feedback on the Initial Recommendation to aid in clarity. Is the Initial Recommendation or are the components of the recommendation (e.g., clinical and economic evidence or provisional algorithm) clearly worded? Is the intent clear? Are the reasons clear?

Page Number	Section Title	Paragraph, Line Number	Comments and Suggested Changes to Improve Clarity

3.2 Comments Related to Eligible Stakeholder Provided Information

Notwithstanding the feedback provided in part a) above, please indicate if the Stakeholder would support this Initial Recommendation proceeding to Final pERC Recommendation ("early conversion"), which would occur two (2) Business Days after the end of the feedback deadline date.

\boxtimes	Support conversion to Final Recommendation.	Do not support conversion to Final Recommendation.
	Recommendation does not require reconsideration by pERC.	Recommendation should be reconsidered by pERC.

If the eligible stakeholder does not support conversion to a Final Recommendation, please provide feedback on any issues not adequately addressed in the Initial Recommendation based on any information provided by the Stakeholder in the submission or as additional information during the review.

Please note that new evidence will be not considered at this part of the review process, however, it may be eligible for a Resubmission. If you are unclear as to whether the information you are providing is eligible for a Resubmission, please contact the pCODR program.

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Larotrectinib (Vitrakvi) for NTRK+ solid tumours

Name	e of the	Prug and Indic	cation(s):		Larotrectinib/N	ITRK fusi	on	
Eligib	Eligible Stakeholder Role in Review (Sponsor			ısor	Registered Clini	ician Fee	edbac	k
and/	or Manı	ufacturer, Patie	ent Group, Clir	nical				
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3.1	Comm	nents on the Ini	tial Recomme	ndatior	า			
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		al recommendo						•

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Page Number	Section Title	Paragraph, Line Number	Comments related to Stakeholder Information



Larotrectinib (Vitrakvi) for NTRK+ solid tumours

Name of the Drug and				Larotrectinib for Neurotrophic Tyrosine Receptor Kinase (NTRK) + solid tumours			
Eligible	Stakeh	older Role in					
	Review (Sponsor and/or Organization Providing Feedback			cian Medical Oncolo	gist		
				f comments require posting of this docul			m.
3.1	Comm	ents on the Initia	l Recommendati	on			
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Page Number	Section Title	Paragraph, Line Number		nents and S	Suggeste	ed Changes t
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feedback de	port conversion	to Final		Do not su Recomm		onversion to 1.
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Name of the Drug and Indication(s):	Larotrectinib. For the treatment of adult and pediatric patients with locally advanced or
	metastatic solid tumors harboring a NTRK gene fusion.
Eligible Stakeholder Role in Review (Sponsor	Clinical Group
and/or Manufacturer, Patient Group, Clinical	
Organization Providing Feedback	Lung Cancer Canada
*The pCODR program may contact this person if	
information will not be included in any public p	osting of this document by the pCODR program.
3.1 Comments on the Initial Recommendation	n
 a) Please indicate if the eligible stakehouse Initial Recommendation: 	older agrees, agrees in part, or disagrees with the
□ agrees ⊠	agrees in part disagree
positive disease in four rare cancers is	cess to Larotrectinib for the treatment of NTRK very welcome and represents an important step reality for more Canadian cancer patients.
that this recommendation does not ext	oncologist, I was extremely disappointed to realize end to NTRK positive non-small cell lung cancer lation in full I think there are three assumptions in that are not well founded.
Unfounded Assumption 1: NTRK positive options including immune therapy.	e metastatic NSCLC has a range of therapeutic
years, this benefit is not universal to N been approved and adopted during this EGFR positive patients respond well to positive patients respond well to ALK is benefit to be obtained in treating either	de in managing metastatic NSCLC over the last 15 SCLC patients. Although several new agents have period, the benefit is not additive. For example, EGFR TKIs but not to ALK inhibitors. Similarly ALK phibitors but not to EGFR inhibitors. There is no per patient group with a small molecular inhibitor of the ogress through all small molecular inhibitors in that otoxic chemotherapy.

The situation is similar for immunotherapy. Despite the adoption of immune checkpoint inhibitors in the setting of metastatic NSCLC, marker positive cancers such as EGFR and ALK positive tumor consistently do poorly when treated with PDL-1 or PD1 inhibition. (This reality was reinforced again at the recent World Lung Cancer conference in Barcelona). The Maziere's study (Ann Oncol 2019; 1321-28) illustrated that all lung cancer with driver mutation had poor response and PFS on immunotherapy regardless of PDL-1 expression. Gatalacia (Modern Pathology 2019;32:147-53) reported NTRK fusion positive cancers harbor only this molecular abnormality and can therefore not be treated with other targeted agents. In this analysis, only 20% or so had meaningful PDL-1 expression and their Tumour Mutation Burden was low. These are all predictors for poor benefit to immunetherapy. All indications are that NTRK positive tumours are very likely to behave like EGFR and ALK positive cases, responding well to the appropriate NTRK inhibitor (such as larotrectinib) but not to immunotherapy.

In summary. This means that without Larotrectinib availability, options for NTRK positive NSCLC patients are sparse and essentially unchanged in almost 2 decades.

Unfounded Assumption 2: NTRK positive metastatic NSCLC is not an unmet need. Metastatic NSCLC is currently incurable and in the absence of a prolonged immunotherapy-induced disease control, is associated with a life expectancy of 12 -14 months. NTRK positive cases do not have other precision oncology therapies and are unlikely to benefit from immunotherapy. Clearly, these features seem to fulfill the definition of an "unmet clinical need". A lack of data to define the specific clinical course of NTRK positive cases does not change that reality.

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	a	grees		agrees in part	\boxtimes	disagree

Unfounded Assumption 3: the pharmaco economic impact of identifying NTRK positive tumours is prohibitive.

The frequency of the NTRK gene fusion in a given histology does not affect the clinical efficacy of larotrectinib. While the incidence of NTRK positive cases influences the cost of screening and identifying NTRK positive patients, the efficacy of Larotrectinib in that setting remains the same. As such, I do not believe that the somewhat inflated costs of NTRK screening used for these calculations should influence a decision that should be based on clinical benefit.

Even if it is insisted that the NTRK testing costs must be included in the equation, four important factors need to be incorporated into the calculations:

- (a) the cost of NGS testing is decreeing and continues to do so as the throughput of samples being tested increases. In the near term, it is very likely that NTRK testing can be carried out for \$500 per sample rather than \$3000 per sample.
- (b) NGS panel based testing is likely to become an expected standard of care in an increasing number of centers across Canada over the next 24 months. As the number of genes that need to be tested for increases and the range of histologies in which mutation testing becomes relevant grows, it will become more economical to do a single panel-based test where a range of mutations are tested for in parallel rather than sequentially

as is currently the case. At that point, NTRK positive cases will become routinely identifiable across the country.

- (c) Many patients will insist on having their tumor samples profiled by Foundation One or Guardant Health at no cost at the health care system.
- (d) Our own cost analysis (University of Calgary POET program) for NTRK screening for Alberta for all cases of metastatic NSCLC in the 1st line setting would total \$750,000 per year using a process that incorporates an IHC based screening step. If reserved for 2nd line testing only and a 40% attrition rate for 1st to 2nd line treatment is assumed, the cost falls to less than \$300,000 per year. This is profoundly less than the \$80M per year calculated in the economic analysis and very much in line with the \$285,000 per year recommendation for larotrectinib in the 2nd line setting.

Finally, it seems to me that a slight inconsistency in this recommendation calls into question the ethics of recommending access to Larotrectinib for NTRK positivity at high prevalence in some rare histologies and not for NTRK positivity at a low prevalence in common histologies.

c) Please provide editorial feedback on the Initial Recommendation to aid in clarity. Is the Initial Recommendation or are the components of the recommendation (e.g., clinical and economic evidence or provisional algorithm) clearly worded? Is the intent clear? Are the reasons clear?

Page Number	Section Title	Paragraph, Line Number	Comments and Suggested Changes to Improve Clarity

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name o	it the	Drug and Indicat	ion(s):	Larotrectinib			
Eligible	Stake	holder Role in R	eview (Sponsor				
and/or	Manut	facturer, Patient	Group, Clinical	Clinical Organization			
Organiz	ation	Providing Feedb	ack	Pediatric Oncolog	gy Group	of Ontario	
*The pC(ODP n	rogram may con	tact this parson if	comments require	clarificat	ion Contact	
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3.1 C	omme	ents on the Initia	al Recommendatio	n			
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Page Number	Section Title	Paragraph Line Numb		nts and Sug e Clarity	geste	ed Changes to
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1 About Stakeholder Feedback

pCODR invites eligible stakeholders to provide feedback and comments on the Initial Recommendation made by the pCODR Expert Review Committee (pERC), including the provisional algorithm. (See www.cadth.ca/pcodr for information regarding review status and feedback deadlines.)

As part of the pCODR review process, pERC makes an Initial Recommendation based on its review of the clinical benefit, patient values, economic evaluation and adoption feasibility for a drug. (See www.cadth.ca/pcodr for a description of the pCODR process.) The Initial Recommendation is then posted for feedback from eligible stakeholders. All eligible stakeholders have 10 (ten) business days within which to provide their feedback on the initial recommendation. It should be noted that the Initial Recommendation, including the provisional algorithm may or may not change following a review of the feedback from stakeholders.

pERC welcomes comments and feedback from all eligible stakeholders with the expectation that even the most critical feedback be delivered respectfully and with civility.

A. Application of Early Conversion

The Stakeholder Feedback document poses two key questions:

1. Does the stakeholder agree, agree in part, or disagree with the Initial Recommendation?

All eligible stakeholders are requested to indicate whether they agree, agree in part or disagrees with the Initial Recommendation, and to provide a rational for their response.

Please note that if a stakeholder agrees, agrees in part or disagrees with the Initial Recommendation, the stakeholder can still support the recommendation proceeding to a Final Recommendation (i.e. early conversion).

2. Does the stakeholder support the recommendation proceeding to a Final Recommendation ("early conversion")?

An efficient review process is one of pCODR's key guiding principles. If all eligible stakeholders support the Initial Recommendation proceeding to a Final Recommendation and that the criteria for early conversion as set out in the pCODR Procedures are met, the Final Recommendation will be posted on the CADTH website two (2) Business Days after the end of the feedback deadline date. This is called an "early conversion" of an Initial Recommendation to a Final Recommendation.

For stakeholders who support early conversion, please note that if there are substantive comments on any of the key quadrants of the deliberative framework (e.g., differences in the interpretation of the evidence), including the provisional algorithm as part of the feasibility of adoption into the health system, the criteria for early conversion will be deemed to have <u>not</u> been met and the Initial Recommendation will be returned to pERC for further deliberation and reconsideration at the next possible pERC meeting. If the substantive comments relate specifically to the provisional algorithm, it will be shared with PAG for a reconsideration. Please note that if any one of the eligible stakeholders does not support the Initial Recommendation proceeding to a Final pERC Recommendation, pERC will review all feedback and comments received at a subsequent pERC meeting and reconsider the Initial Recommendation. Please also note that substantive comments on the provisional algorithm will preclude early conversion of the initial recommendation to a final recommendation.

B. Guidance on Scope of Feedback for Early Conversion

Information that is within scope of feedback for early conversion includes the identification of errors in the reporting or a lack of clarity in the information provided in the review documents. Based on the feedback received, pERC will consider revising the recommendation document, as appropriate and to provide clarity.

If a lack of clarity is noted, please provide suggestions to improve the clarity of the information in the Initial Recommendation. If the feedback can be addressed editorially this will done by the CADTH staff, in consultation with the pERC chair and pERC members, and may not require reconsideration at a subsequent pERC meeting. Similarly if the feedback relates specifically to the provisional algorithm and can be addressed editorially, CADTH staff will consult with the PAG chair and PAG members.

The Final pERC Recommendation will be made available to the participating federal, provincial and territorial ministries of health and provincial cancer agencies for their use in guiding their funding decisions and will also be made publicly available once it has been finalized.

2 Instructions for Providing Feedback

- a) The following stakeholders are eligible to submit Feedback on the Initial Recommendation:
 - The Sponsor making the pCODR Submission, or the Manufacturer of the drug under review;
 - Patient groups who have provided input on the drug submission;
 - Registered clinician(s) who have provided input on the drug submission; and
 - The Provincial Advisory Group (PAG)
- b) The following stakeholders are eligible to submit Feedback on the provisional algorithm:
 - The Sponsor making the pCODR Submission, or the Manufacturer of the drug under review;
 - Patient groups who have provided input on the drug submission;
 - Registered clinician(s) who have provided input on the drug submission; and
 - The Board of Directors of the Canadian Provincial Cancer Agencies
- c) Feedback or comments must be based on the evidence that was considered by pERC in making the Initial Recommendation. No new evidence will be considered at this part of the review process, however, it may be eligible for a Resubmission.
- d) The template for providing *Stakeholder Feedback on pERC Initial Recommendation* can be downloaded from the pCODR section of the CADTH website. (See www.cadth.ca/pcodr for a description of the pCODR process and supporting materials and templates.)
- e) At this time, the template must be completed in English. The Stakeholder should complete those sections of the template where they have substantive comments and should not feel obligated to complete every section, if that section does not apply.
- f) Feedback on the pERC Initial Recommendation should not exceed three (3) pages in length, using a minimum 11 point font on 8 ½" by 11" paper. If comments submitted exceed three pages, only the first three pages of feedback will be provided to the pERC for their consideration.
- g) Feedback should be presented clearly and succinctly in point form, whenever possible. The issue(s) should be clearly stated and specific reference must be made to the section of the

recommendation document under discussion (i.e., page number, section title, and paragraph). Opinions from experts and testimonials should not be provided. Comments should be restricted to the content of the Initial Recommendation, and should not contain any language that could be considered disrespectful, inflammatory or could be found to violate applicable defamation law.

- h) References to support comments may be provided separately; however, these cannot be related to new evidence. New evidence is not considered at this part of the review process, however, it may be eligible for a Resubmission. If you are unclear as to whether the information you are considering to provide is eligible for a Resubmission, please contact the pCODR program.
- i) The comments must be submitted via a Microsoft Word (not PDF) document to pCODR by the posted deadline date.
- j) If you have any questions about the feedback process, please e-mail pcodrsubmissions@cadth.ca

Note: CADTH is committed to providing an open and transparent cancer drug review process and to the need to be accountable for its recommendations to patients and the public. Submitted feedback will be posted on the CADTH website (www.cadth.ca/pcodr). The submitted information in the feedback template will be made fully disclosable.